

## MINI-OTE 300 OPTICAL TERMINAL ENCLOSURE

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## 1 General product information

CommScope’s Mini-OTE 300 closure is a gel sealed fiber optic terminating enclosure designed for the telecom outside plant network. The closure is available in 2, 4, 6, 8 and 12 port versions with full-size or mini-size DLX® hardened adapters with options for factory installed splitter or CWDM. The closure has a maximum splice capacity of 40 splices. It is suitable for deployment in aerial, pole, pedestal, and below grade applications. The Mini-OTE 300 allows for both in line and butt configurations with 5 ports accepting standard flat drop up to 1/2” diameter cable for multiple combinations of feeder and drop cables. Sealing is achieved by spring loaded gel technology, resulting in extremely convenient re-entry and resealing.

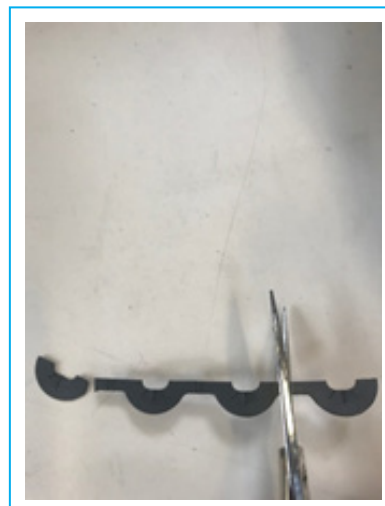
### 1.1 Cable types

The Mini-OTE 300 is designed for standard flat drop, with or without toning wire, and loose buffer tube and central core tube up to 1/2” diameter cable. Provisions are provided for shielded cable grounding. Fiber types include single fiber 250 micron, flat matrix ribbon, and rollable ribbon fiber.

For cables that are 1/2” diameter it may be necessary to remove the plastic ring-strip that is located above the lower gel block, such as 96F.



Plastic Ring Strip



Cut & Remove For Large Cables


## 1.2 Tools and materials required

- 7/16" wrench – exterior bolt hardware.
- 3/8" wrench – interior bolt hardware and pole mount bracket hardware or type 216C can wrench - exterior and interior bolt hardware.
- Self adhesive felt tape (for ribbon central tube applications only).
- Flathead #2 screwdriver.

## 1.3 Closure specifications

The Mini-OTE 300 is a unique solution for splicing, termination and pass-through cable requirements in fiber-to-the-x (FTTx) architectures.

- Terminal is re-enterable, swinging open on a hinge for quick access and easy service and maintenance.
- Available with 2, 4, 6, 8 or 12 adapter ports, full-size or mini-size DLX® hardened adapters.
- Four gel-sealed input ports for express and branch-off cables for butt installations.
- One gel-sealed input port for express and branch-off cables for in-line installations.
- Units are shipped with two factory integrated splice trays and a fiber storage tray. Slack cable storage is available beneath the splicing trays.
- Accommodates CommScope's field installable splitters (1x2, 1x4, 1x8) and field installable compact CWDMs (2, 4, 8 channel).
- Max number of splices.

 **NOTE:** Trays intended for single stranded splice only, ribbon to be de-ribbonized and spliced as single strands.

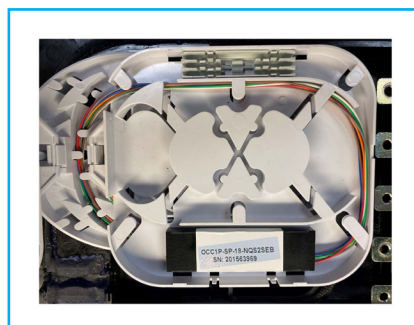
Product Configuration	Max # Splices	Tray #1	Tray#2
Without Splitter or CCWDM	40	20 *	20 *
With Splitter	26	6	20 *
With CCWDM	26	6	20 *

\* Requires additional SMOUV holder: *SPLICEHOLDER-FIST2-6S45* for holding six splices. Splice holder included in Main Subassembly for all terminal kits except Tap terminals which are designed as Plug in-Play.

Table 1



Without Splitter or CCWDM



With Splitter



With CCWDM

## 2 Product images

### MINI-OTE 300 OPTICAL TERMINAL ENCLOSURE



### 3 Warnings and cautions

Before installing and using the Mini-OTE 300, the user should fully understand the warnings and notes explained in this section.

#### Do not disassemble the product

The user should not disassemble the product. If the user thinks a repair is necessary, contact the CommScope Technical Support Team (800) 830-5056.

#### Installation site condition

For safe and stable use, the product should be installed in a site satisfying the following conditions:

- Install the product in a location where the fiber technician can easily access, connect and disconnect cables to the product.

### 4 Kit contents

For safe and stable use, the product should be installed using the following components found in the Mini-OTE 300 kit.

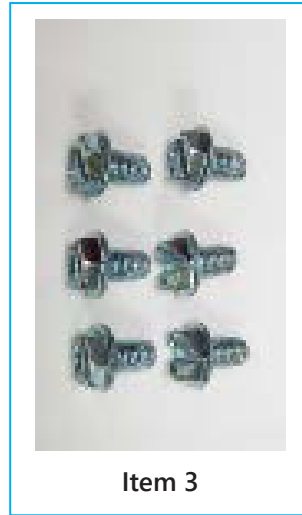
Item #	Description	Item #	Description
1	Mini-OTE 300 Terminal Enclosure	10	Mini-OTE 300 port plugs (4), ground plug (1)
2	Cable retention hardware assembly (4)	11	Mini-OTE 300 Ribbon standard grommet
3	Bolts for cable retention assembly 3/8" hex head slotted (6)	12	Mini-OTE 300 LBT standard grommet
4	Inline Ground Bar	13	Mini-OTE 300 LBT micro grommet
5	Ground bar	14	Spiral Wrap 3/8", (2- 1ft.)
6	Cable ties	15	Routing Label
7	Perforated foil (installer must cut in half, to be used on all cables) (3)	16	45 mm SMOUVS (30)
8	Hand hole mounting clamp (2)	17	Pedestal mount optional hardware – SLTD Index Hex Washer machine screw 10/24 x 1" (4) Nut lock washer (4)
9	Hand hole clamp hardware – bolt 7/16 Hex (2)	18	Spliceholder-FIST2-6S45



Item 1



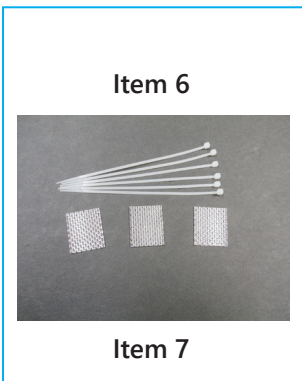
Item 2



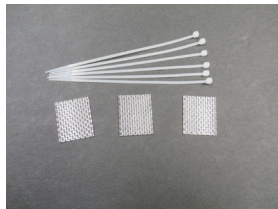
Item 3



Item 4 Item 5



Item 6



Item 7



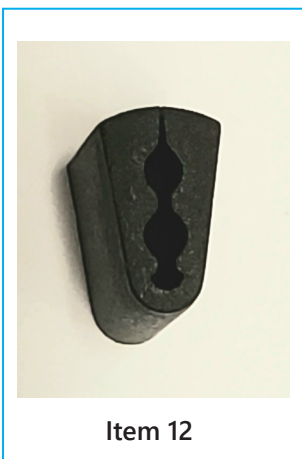
Item 8 Item 9



Item 10



Item 11



Item 12



Item 13



Item 14



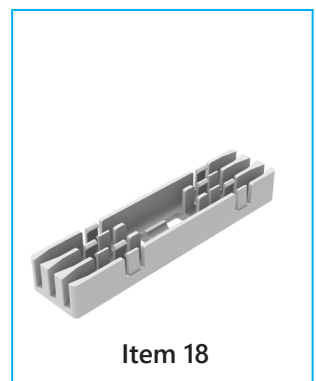
Item 15



Item 16



Item 17



Item 18

## 4.1 Supplementary kits

### Cable Retention Kit: # 760242289

#### OTE-M-CABLERET-KIT

- Cable retention assembly (2)
- Bolt (2)
- Perforated Foil



Included in kits but additional components available in supplementary kit.

### Strand Clamp Kit: # 760244002

#### OTE-M-STRAND-CLAMP

- Cable clamps (4)
- Bolts (2)



### Pole Mount Kit: # 860634772

#### OTE-M-POLEMNT-BRKT

- Brackets (2)
- Bolts - 7/16" hex head (4)
- Cable ties (2)



### Strand Mount Kit: # 760235507

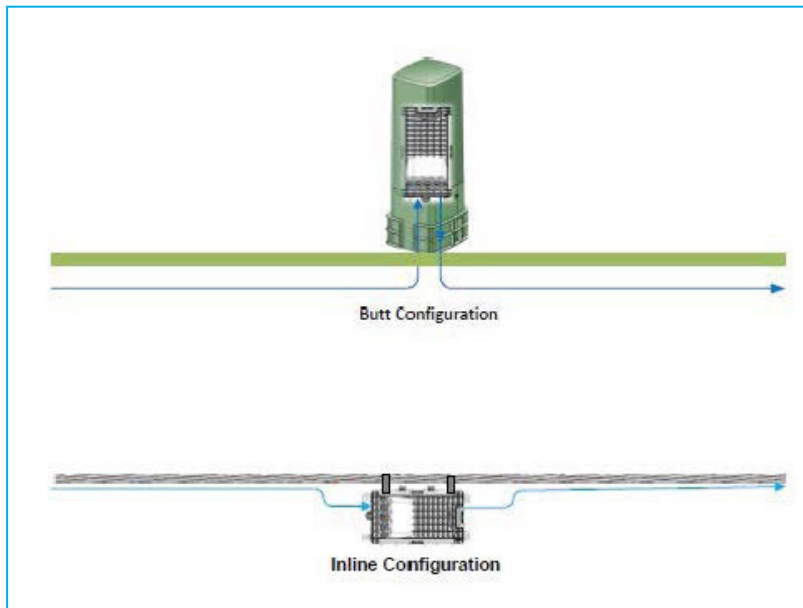
#### OTE-M-STRAND BRKT

- Brackets wth hardware (2)
- Lock Washers (2)
- Bolts (2)



# 5 Cable preparation

Cable preparation instructions found in this section include Butt and In-Line configurations for both Loose Buffer Tube (LBT) and Ribbon Central Core type cables.



## 5.1 Inline configurations

### 5.1.1 Mid-sheath - loose buffer tube (LBT)

Inline (Thru) mid-sheath configuration

Preparation of Loose Buffer Tube Standard or Micro, and Flat Drop with or without Trace wire. See Figure 1.

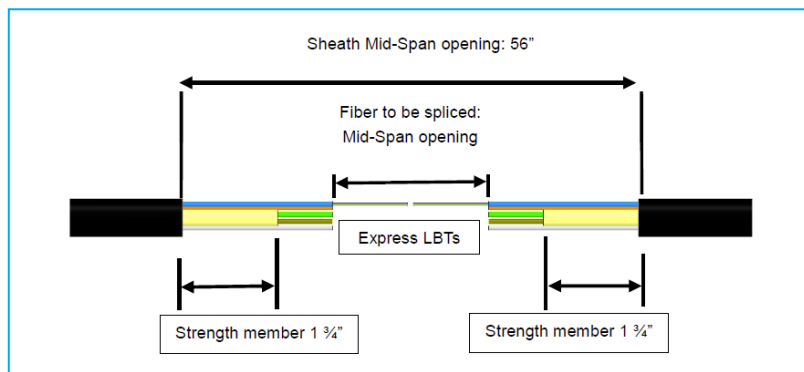


Figure 1

5.1.1.1 Prepare mid-span opening: remove **56"** of outer sheath. See Figure 1.

5.1.1.2 Cut strength member(s) **1 3/4"** from end of sheath openings. See Figure 1.

5.1.1.3 If flat drop has a trace wire, cleanly cut away **4"** of wire from end sheath opening. See photos 1-2.

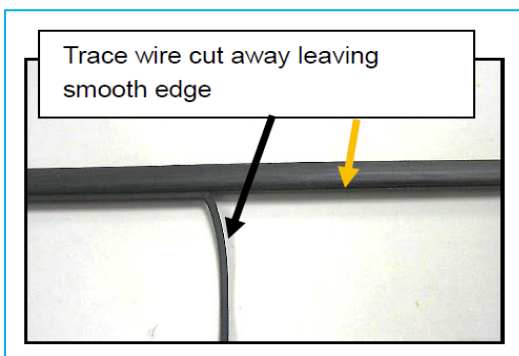


Photo 1

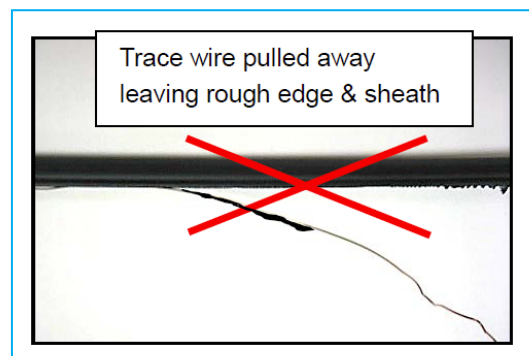


Photo 2

If cable is shielded and to be grounded proceed to **Section 6**, Cable bonding and grounding.

Proceed to **Section 7** to assemble cable retention hardware to each cable end opening.

- 5.1.1.4 Separate buffer tube(s) containing fibers to be spliced from LBT bundle.
- 5.1.1.5 Snap cable retention assemblies into the appropriate locations.
- 5.1.1.6 Secure with bolts if grounded. See photos 3-5.

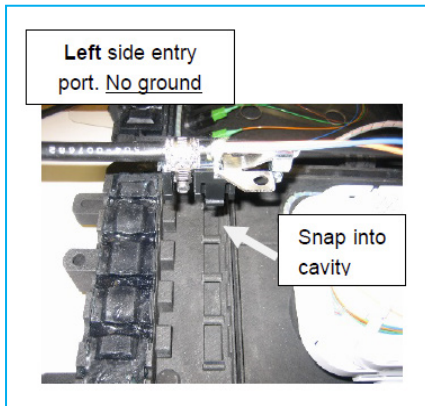


Photo 3

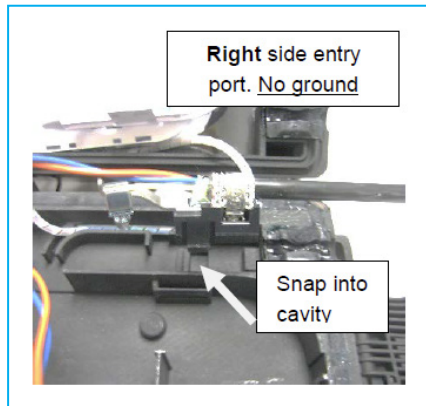


Photo 4

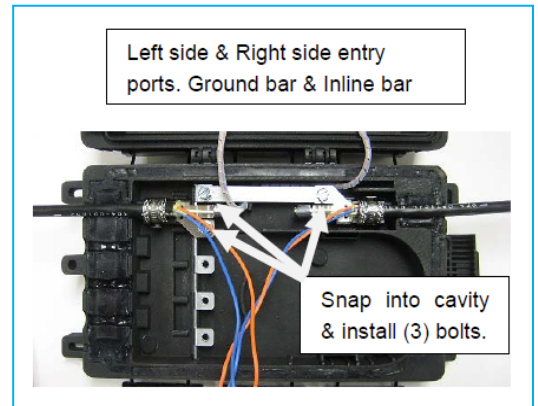


Photo 5

- 5.1.1.7 Store express buffer tube(s). See photo 8.
- 5.1.1.8 Store inline cable entering from right side first, then cable entering from left side. Tray stack may be removed for easier access to storage. See photos 6-8.

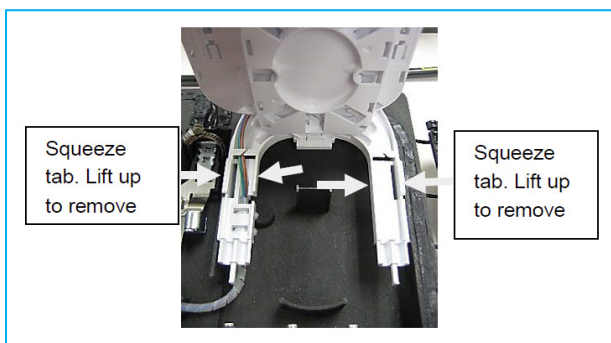


Photo 6

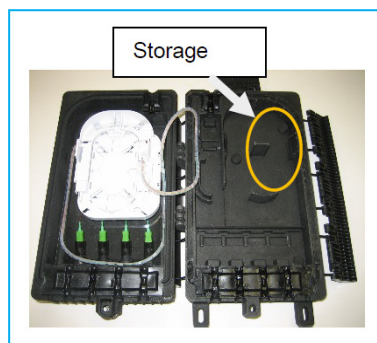


Photo 7

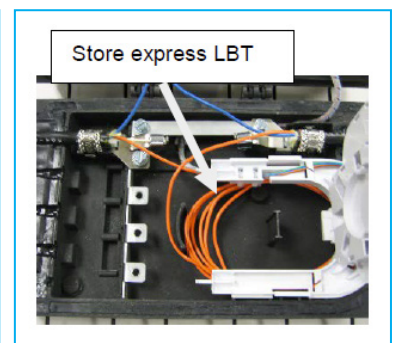


Photo 8

Create mid-span opening of LBT containing fiber to be spliced as follows.

- 5.1.1.9 Mark buffer tube **5"** from the sheath opening on cable entering closure from the left.
- 5.1.1.10 Mark buffer tube **10"** from the sheath opening on the cable entering closure from the right.
- 5.1.1.11 Remove **41"** of buffer tube between the two marks. See Figure 2.

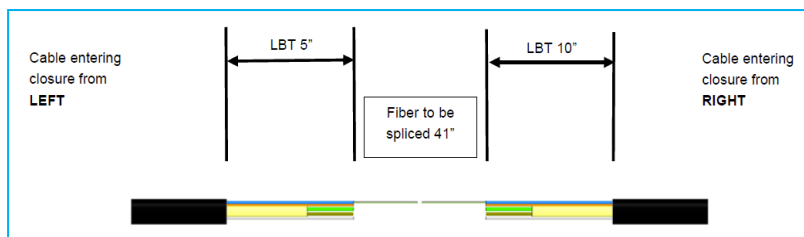


Figure 2

- 5.1.1.12 Cut fibers to be spliced **41"** from the buffer tube opening from incoming signal side of cable

Proceed to **section 8**, Fiber organizing/storage, routing and splicing.



## 5.1.2 Mid-sheath - ribbon central core

Inline Express (thru) configuration

Preparation of Ribbon Central Core Tube shielded/unshielded.

5.1.2.1 Remove **56"** of outer sheath. See Figure 3.

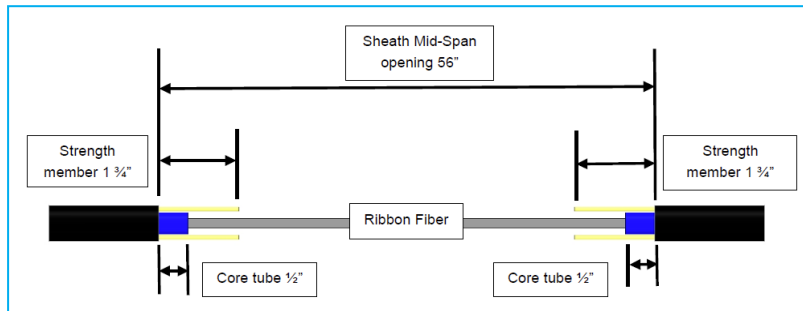


Figure 3

5.1.2.2 Cut strength member(s) **1 3/4"** from end of sheath openings. See Figure 3.

5.1.2.3 Remove core tube from ribbon leaving **1/2"** core tube measured from the cable sheath opening. See Figure 3.

5.1.2.4 Cut two **1/2"** pieces of black felt tape and wrap around each core tube.

 **Note:** Steel strength members may be temporarily bent apart to aid in application of tape. See photos 9-11.

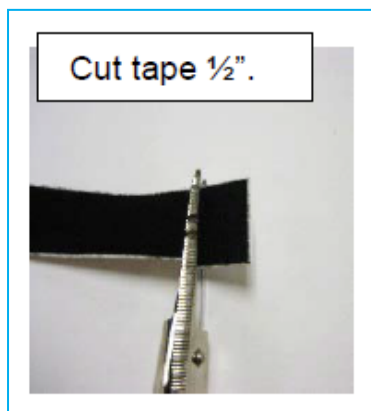


Photo 9



Photo 10

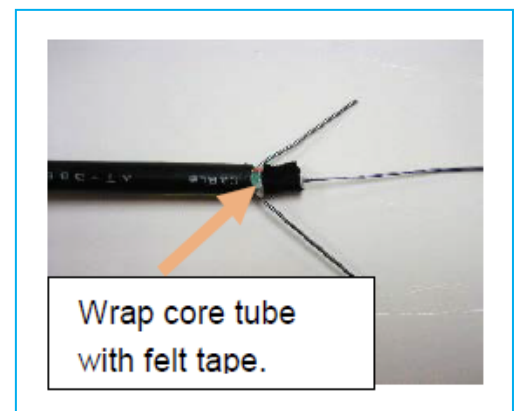


Photo 11

5.1.2.5 Cut 2 pieces of spiral wrap, one **5"** and one **10"** in length.

5.1.2.6 Wrap the **5"** section of spiral wrap around ribbon entering from the **left side** of closure so that it wraps around the **1/2"** core tube.

5.1.2.7 Wrap the **10"** section of spiral wrap around ribbon entering from the **right side** of closure.

5.1.2.8 Secure each spiral wrap to core tube with cable tie. See photos 12-14.

 **Note:** Straighten steel strength members back into original position.

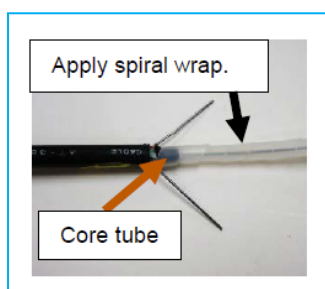


Photo 12

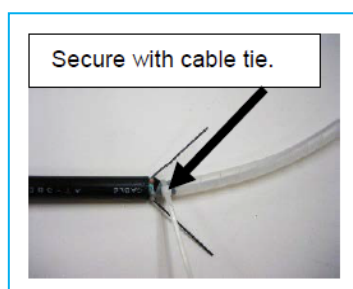


Photo 13

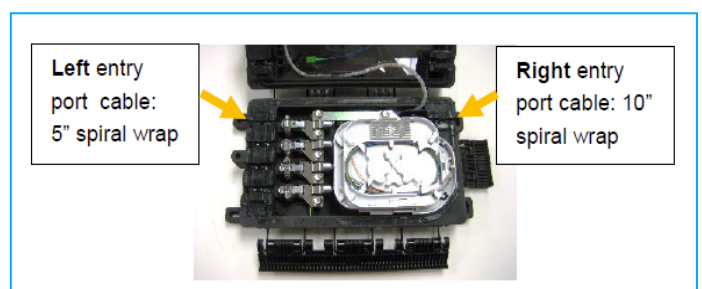


Photo 14

If cable is shielded and to be grounded, proceed to **Section 6**.

Proceed to **Section 7** to assemble cable retention hardware.

5.1.2.9 Snap cable retention assemblies into the appropriate locations.

5.1.2.10 Secure with bolts if grounded. See photos 15-17.

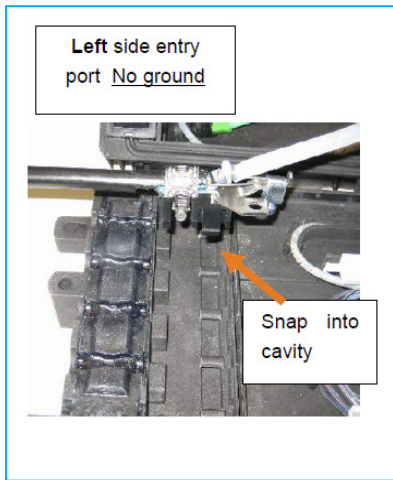


Photo 15

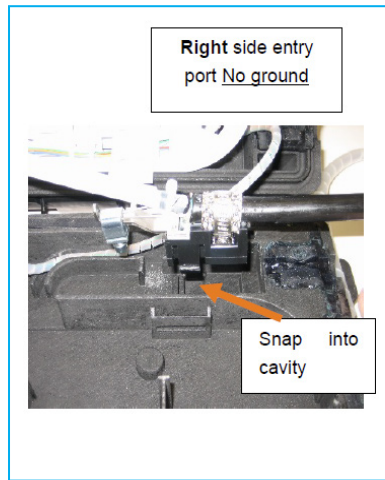


Photo 16

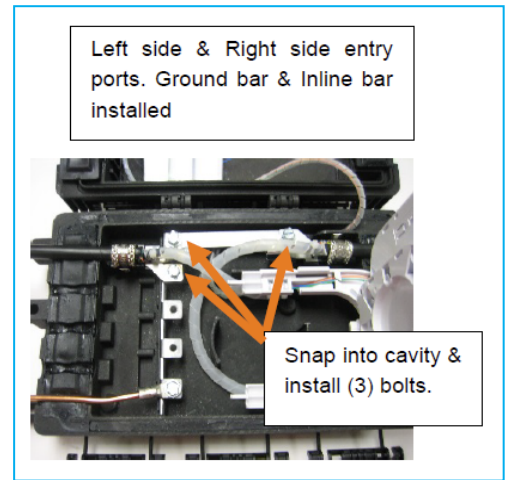


Photo 17

5.1.2.11 Mark ribbon fibers **46"** from the cable jacket opening on incoming signal side of cable.

5.1.2.12 Remove ribbon containing fiber to be spliced from fiber stack.

5.1.2.13 Store express fibers in storage area starting with fiber entering closure from the right side. See photo 20.

Tray stack may be removed for easier access to storage. See photos 18-20.

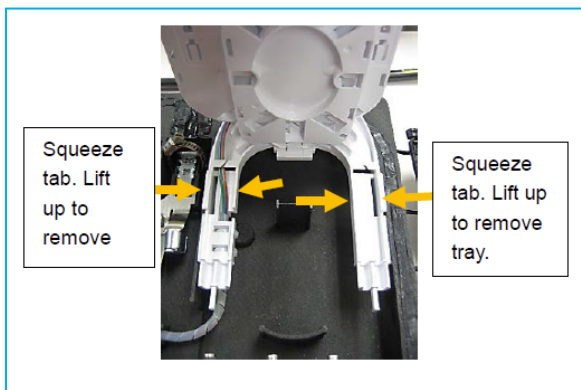


Photo 18



Photo 19

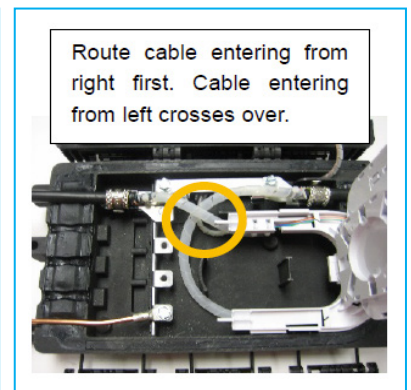


Photo 20

Proceed to **Section 8** for Fiber organizing/storage, routing and splicing.

### 5.1.3 Stub - loose buffer tube (LBT)

Inline Stub (Cable End) Configuration

5.1.3.1 Remove **55"** of outer sheath from end of cable. See Figure 4.

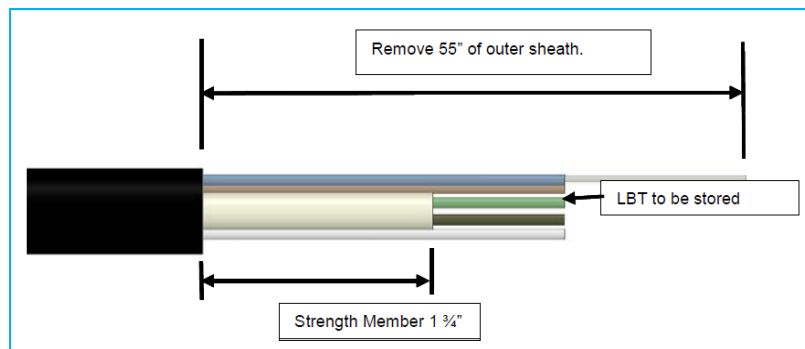


Figure 4

5.1.3.2 Cut strength member(s) **1 3/4"** from end of sheath openings. See Figure 4.

5.1.3.3 If flat drop has a trace wire, cleanly cut away 4" of wire from end of sheath opening. See photo 21-22.

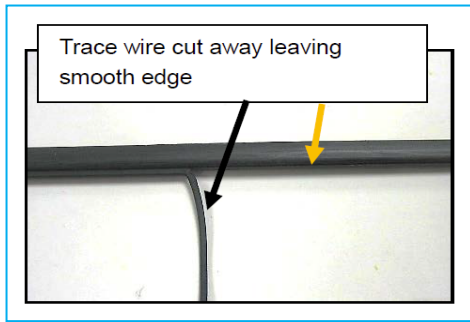


Photo 21

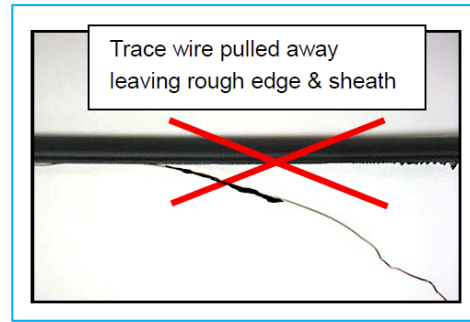


Photo 22

If cable is shielded and to be grounded proceed to **Section 6**, Cable bonding and grounding.

Proceed to **Section 7** to assemble cable retention hardware to each cable end opening.

5.1.3.4 Separate buffer tube(s) containing fibers to be spliced from LBT bundle.

5.1.3.5 Snap cable retention assemblies into the appropriate locations.

5.1.3.6 Secure with bolt if grounded. See photos 23-25.

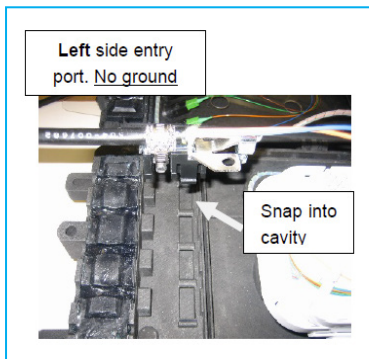


Photo 23

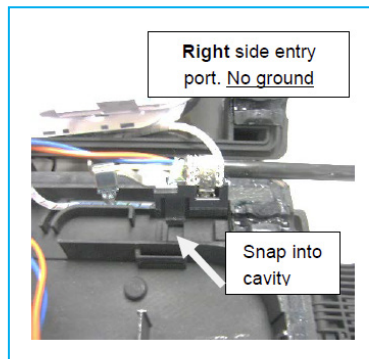


Photo 24

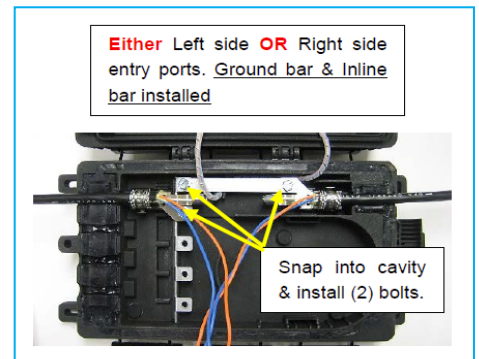


Photo 25

5.1.3.7 If all fibers in a LBT are not to be spliced, route to storage area.

Tray stack may be removed for easier access to storage. See photos 26-29.

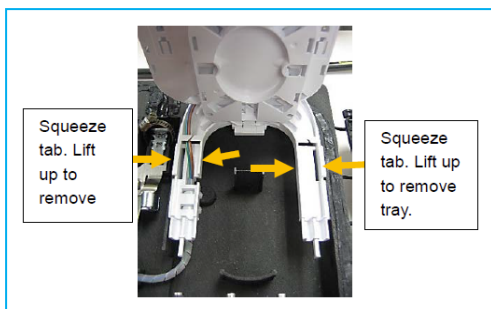


Photo 26

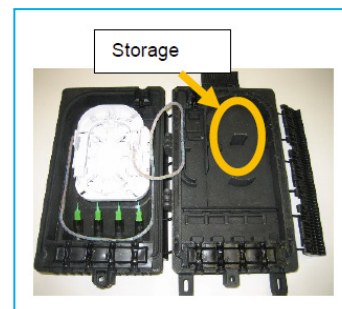


Photo 27

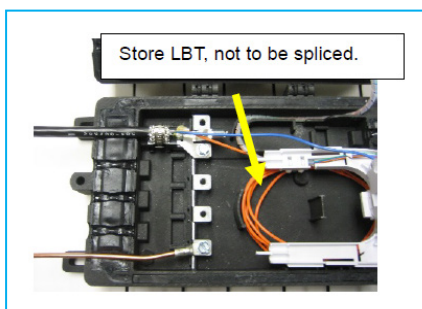


Photo 28



Photo 29

5.1.3.8 If cable enters closure from the right, mark buffer tube **23"** from sheath opening, ring cut and remove tubing. See Figure 5.

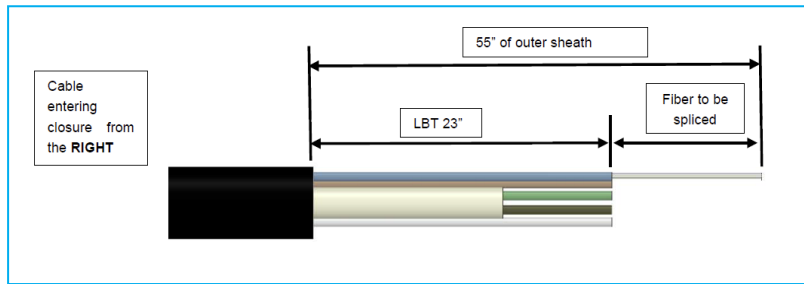


Figure 5

5.1.3.9 If cable enters closure from the left, mark buffer tube **17"** from sheath opening, ring cut and remove tubing. See Figure 6.

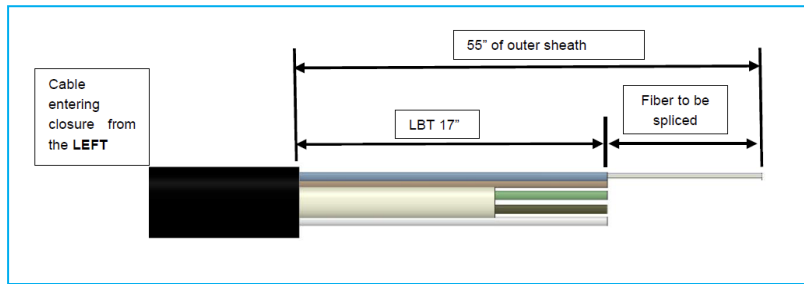


Figure 6

Proceed to **Section 8**, Fiber, organizing/storage, routing and splicing.

#### 5.1.4 Stub - ribbon central core

Inline Stub (cable end) configuration

Preparation of Inline stub configuration ribbon central core tube.

5.1.4.1 Remove **55"** of outer sheath from end of cable. See Figure 7.

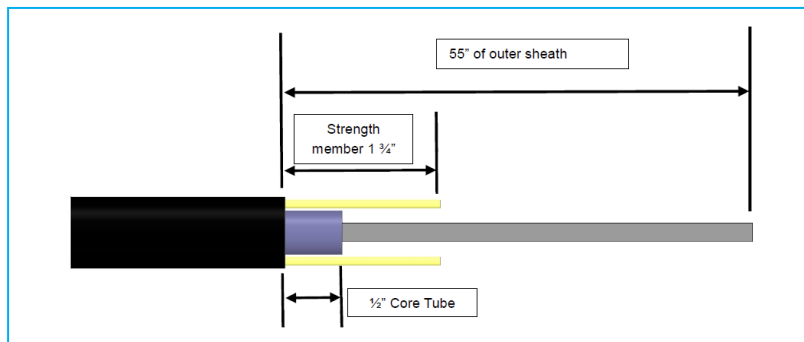


Figure 7

5.1.4.2 Cut strength member(s) **1 3/4"** from end of sheath opening. See Figure 7.

5.1.4.3 Remove core tube from ribbon leaving **1/2"** core tube, measured from the cable sheath openings. See Figure 7.

5.1.4.4 Cut one **1/2"** long piece of black felt tape and wrap around core tube. See photos 30-32.

 **Note:** Steel strength members may be temporarily bent apart to aid in application of tape. See photos 30-32.



Photo 30



Photo 31

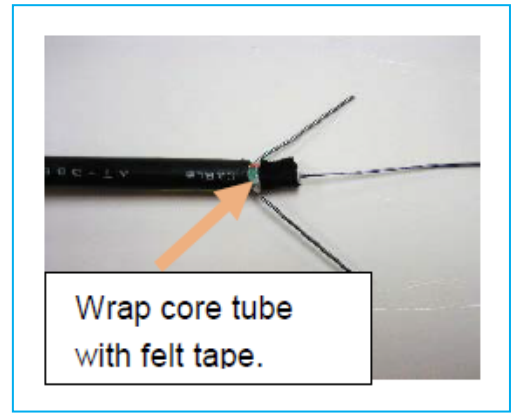


Photo 32

- 5.1.4.5 Cut 1 piece of spiral wrap **10"** in length.
- 5.1.4.6 Wrap spiral wrap around ribbon so that it wraps around the **1/2"** core tube.
- 5.1.4.7 Secure with cable tie. See photos 33-35.

 **Note:** Straighten steel strength members back into original position.

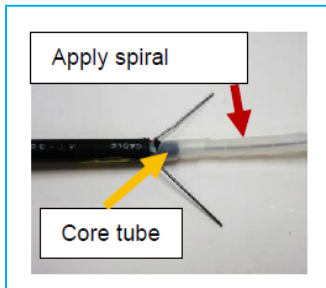


Photo 33

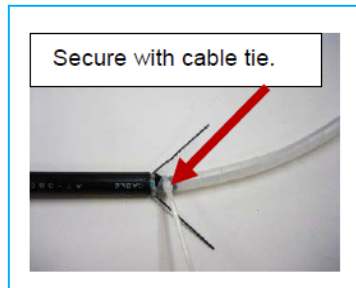


Photo 34

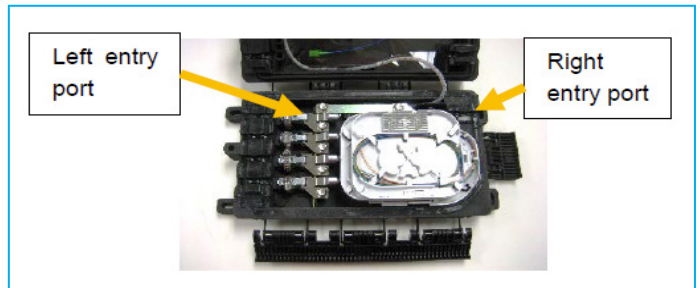


Photo 35

If cable is shielded and to be grounded proceed to **Section 6**, Cable bonding and grounding.

Proceed to **Section 7**, Cable retention.

- 5.1.4.8 Snap cable retention assembly into the appropriate location.
- 5.1.4.9 Secure with bolts if grounded. See photos 36-38.

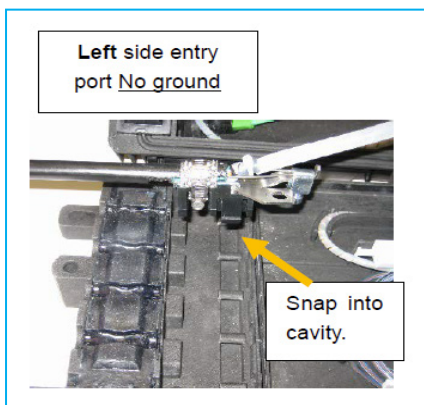


Photo 36

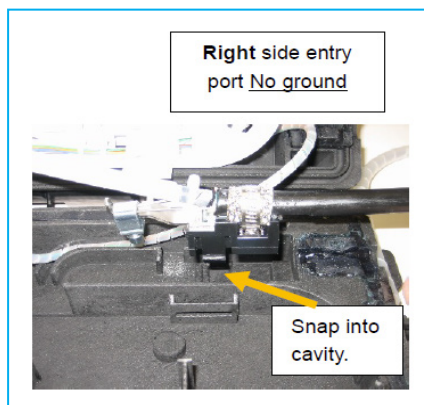


Photo 37

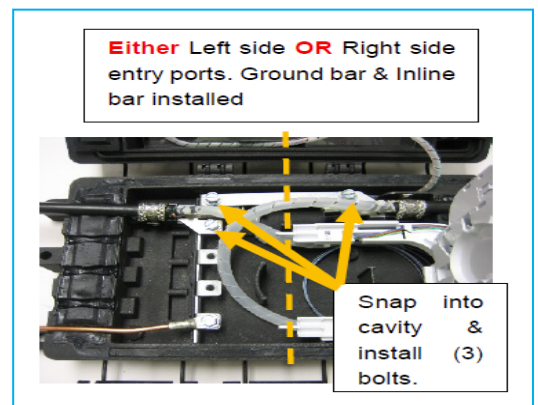


Photo 38

- 5.1.4.10 Remove ribbon containing fiber(s) to be spliced from fiber stack.
- 5.1.4.11 If ribbons are not to be spliced, route to storage area.

Tray stack may be removed for easier access to storage. See photos 39-42.

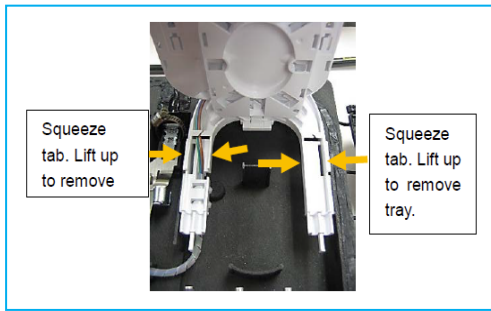


Photo 39



Photo 40

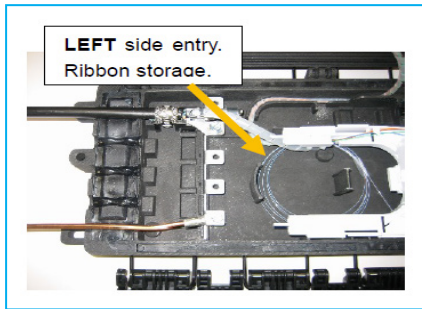


Photo 41

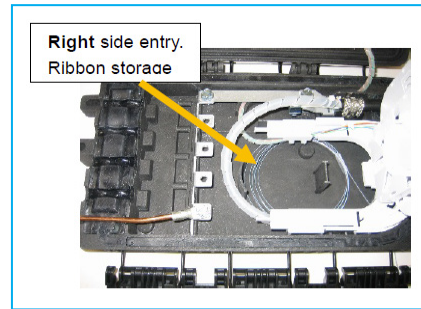


Photo 42

Proceed to **Section 8** Fiber organizing/storage, routing and splicing.

## 5.2 Butt entry configurations

### 5.2.1 Mid-sheath - loose buffer tube (LBT)

Butt Express (Thru) Configuration

Preparation of Loose Buffer Tube Standard or Micro and Flat Drop with or without trace wire.

5.2.1.1 Prepare mid-span opening: remove **56"** of outer sheath. See Figure 8.

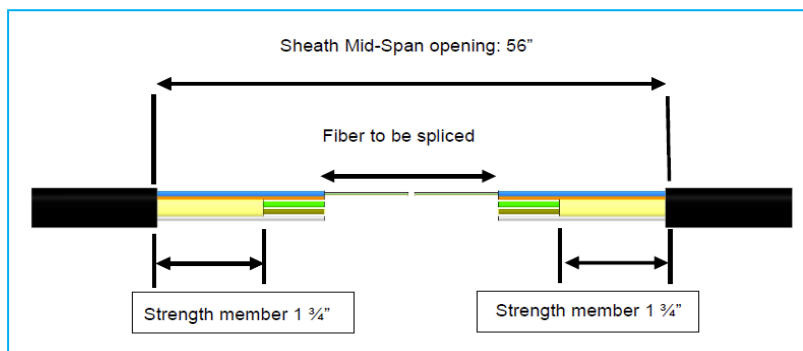


Figure 8

5.2.1.2 Cut strength member(s) **1 3/4"** from end of sheath openings. See Figure 8.

5.2.1.3 If Flat Drop has trace wire, cleanly cut away **4"** of trace wire from end of sheath opening. See photos 43-44.

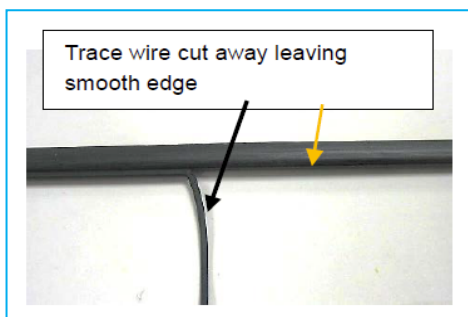


Photo 43

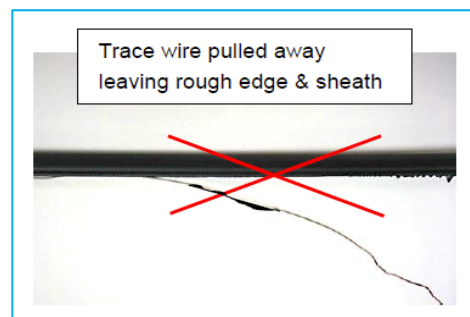


Photo 44

If cable is shielded and to be grounded proceed to **Section 6**, Cable bonding and grounding.

Proceed to **Section 7** to assemble cable retention hardware to each cable end opening.

5.2.1.4 Separate buffer tube(s) containing fibers to be spliced from LBT bundle.

5.2.1.5 Snap cable retention assemblies into the appropriate locations.

5.2.1.6 Secure with bolt if grounded. See photos 45-47.

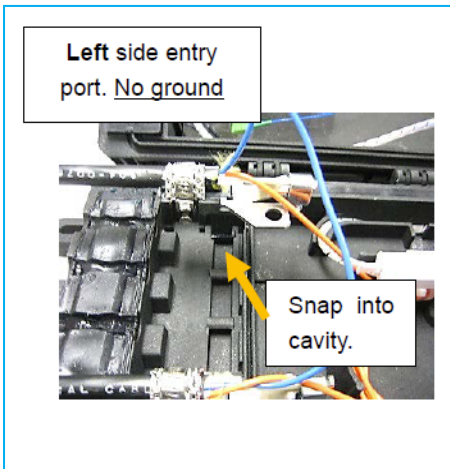


Photo 45

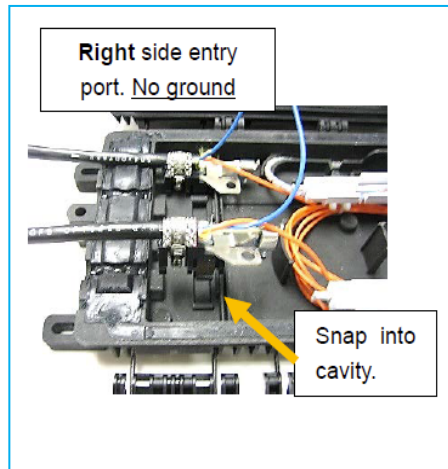


Photo 46

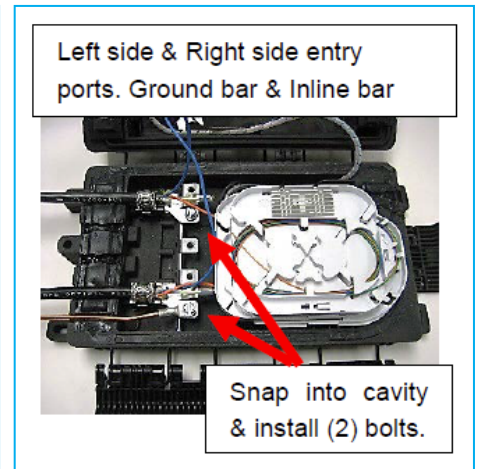


Photo 47

5.2.1.7 Store express buffer tube(s) as seen in photo 50.

Tray stack may be removed for easier access to storage. See photos 48-50.

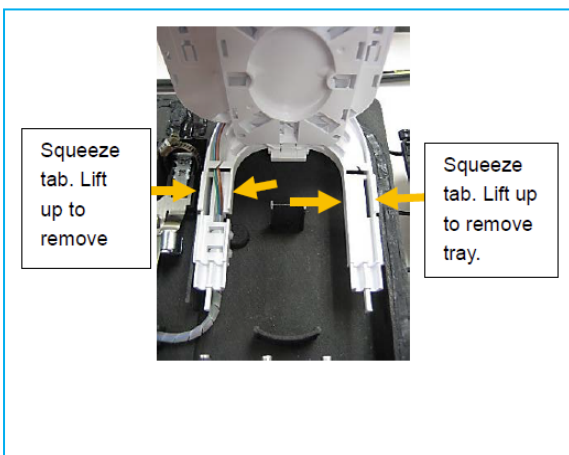


Photo 48

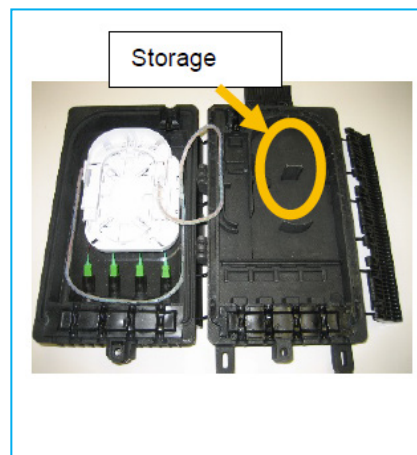


Photo 49

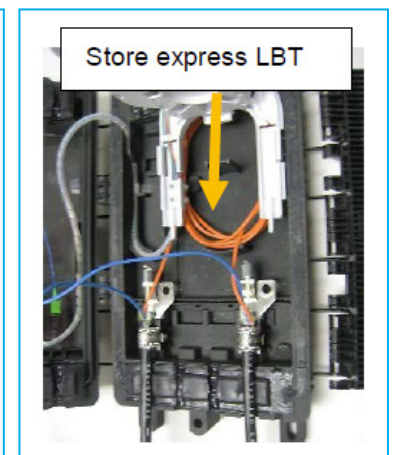
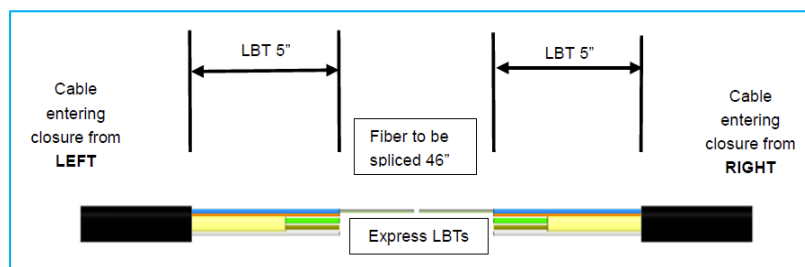


Photo 50

Create mid-span opening of LBT containing fiber to be spliced as follows:

5.2.1.8 Mark buffer tube **5"** from each end of sheath opening.

5.2.1.9 Remove **46"** of buffer tube between the two marks. See Figure 9.



5.2.1.10 Cut fibers to be spliced **46"** from the buffer tube opening, on the incoming signal side.

Proceed to **Section 8**, Fiber organizing/storage, routing and splicing.

## 5.2.2 Mid-sheath - ribbon central core

Butt Express (thru) configuration

5.2.2.1 Preparation of Ribbon Central Core Tube shielded/unshielded, remove **56"** of outer sheath. See Figure 10.

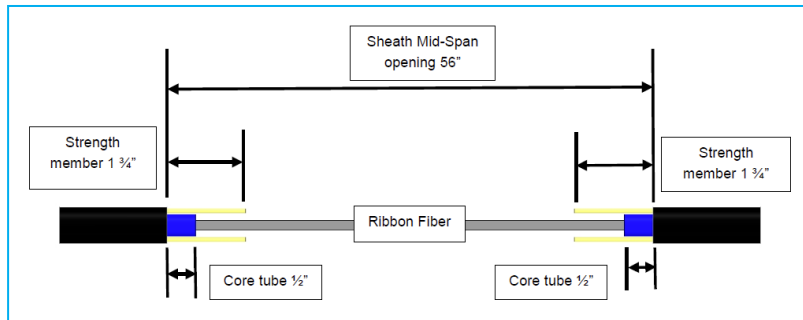


Figure 10

5.2.2.2 Cut strength member(s) **1 3/4"** from end of sheath openings. See Figure 10.

5.2.2.3 Remove core tube from ribbon leaving **1/2"** core tube measured from the cable sheath openings. See Figure 10.

5.2.2.4 Cut two **1/2"** pieces of black felt tape and wrap around each core tube.

 **Note:** Steel strength members may be temporarily bent apart to aid in application of tape. See photos 51-53.

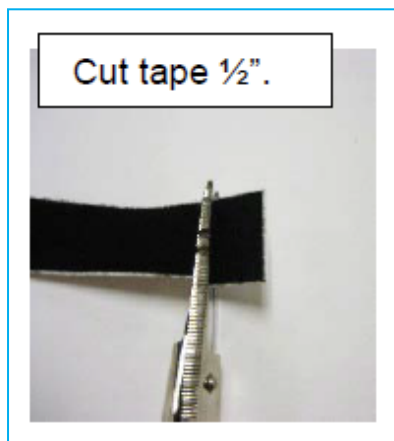


Photo 51

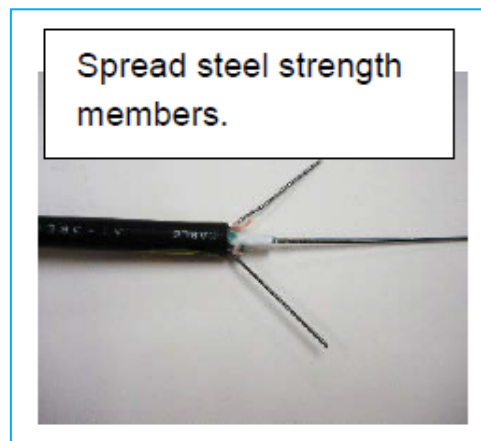


Photo 52

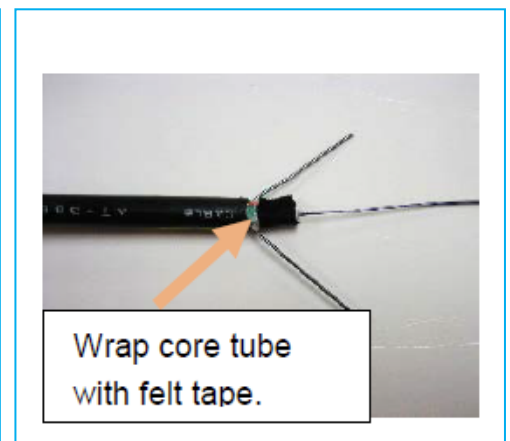


Photo 53

5.2.2.5 Cut 2 pieces of spiral wrap each **5"**.

5.2.2.6 Wrap the **5"** section of spiral wrap around ribbon so that it wraps around the **1/2"** core tube.

5.2.2.7 Secure each spiral wrap to core tube with cable tie.

5.2.2.8 Repeat on other side of sheath opening. See photos 54-55.

 **Note:** Straighten steel strength members back into original position.

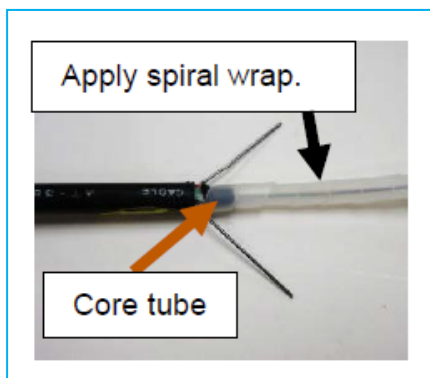


Photo 54

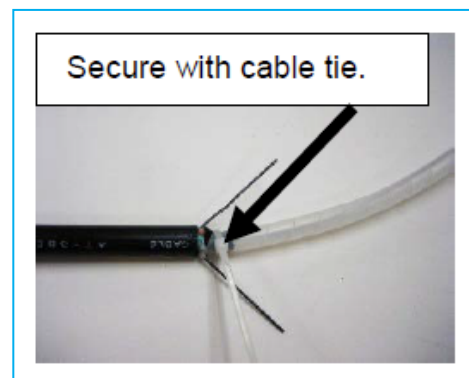


Photo 55



If cable is shielded and to be grounded proceed to **Section 6**.

Proceed to **Section 7** to assemble cable retention hardware.

5.2.2.9 Snap cable retention assemblies into the appropriate locations.

5.2.2.10 Secure with bolts if grounded. See photos 56-58.

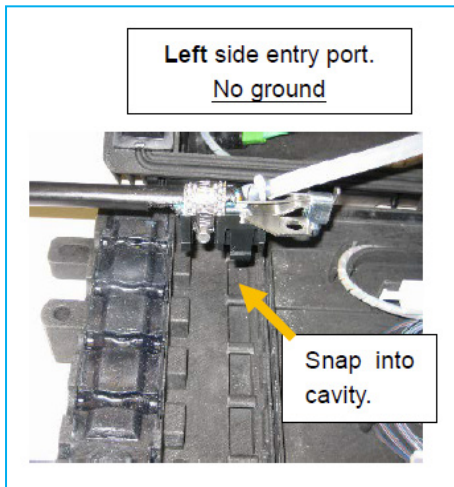


Photo 56

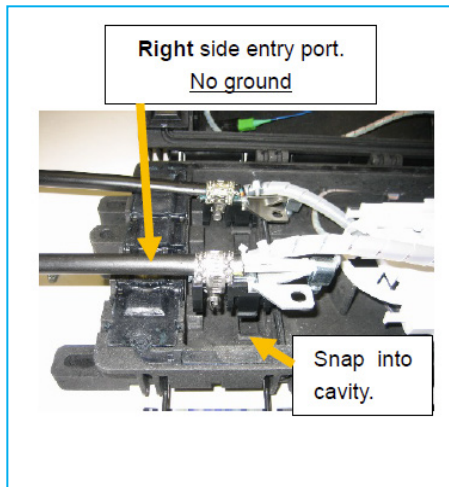


Photo 57

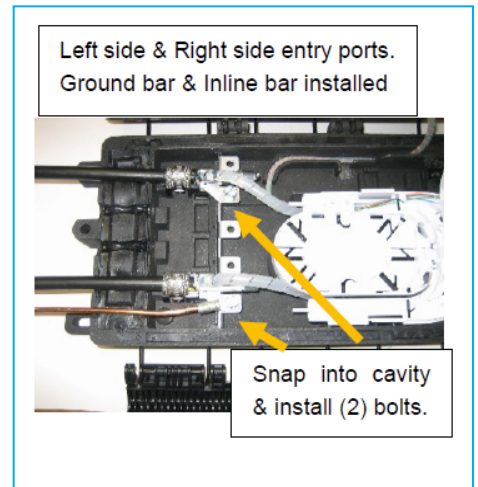


Photo 58

5.2.2.11 Mark point of ribbon containing fibers to be spliced, **51"** from sheath opening where signal input comes from.

5.2.2.12 Remove ribbon containing fiber to be spliced from fiber stack.

5.2.2.13 Store express fibers in storage area.

Tray stack may be removed for easier access to storage. See photos 59-61.

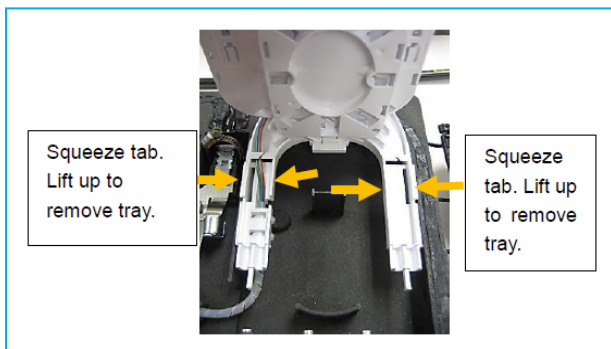


Photo 59



Photo 60

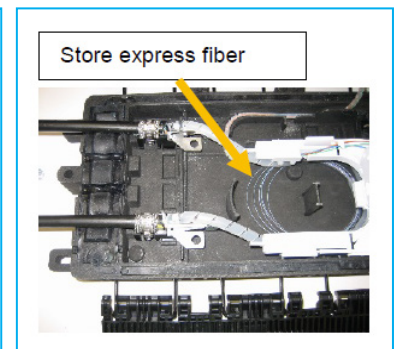


Photo 61

Proceed to **section 8**, Fiber organizing/storage, routing and splicing.

### 5.2.3 Stub - loose buffer tube (LBT)

Butt Stub (Cable End) Configuration

5.2.3.1 Remove **55"** of outer sheath from end of cable. See Figure 11.

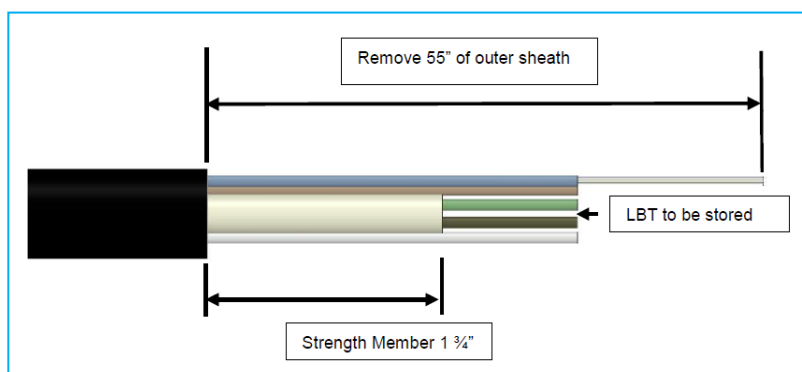


Figure 11

5.2.3.2 Cut strength member(s)  $1\frac{3}{4}$ " from end of sheath openings. See Figure 11.

5.2.3.3 If Flat Drop has a trace wire, cleanly cut away 4" of wire from end of sheath opening. See photos 62-63.

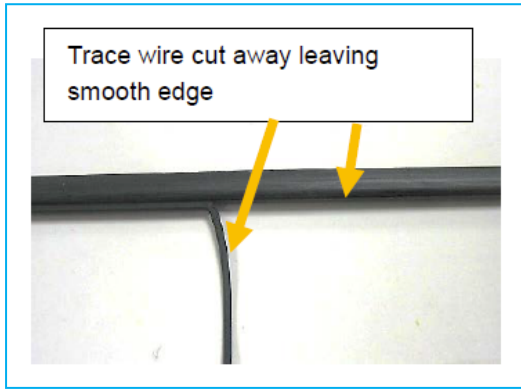


Photo 62

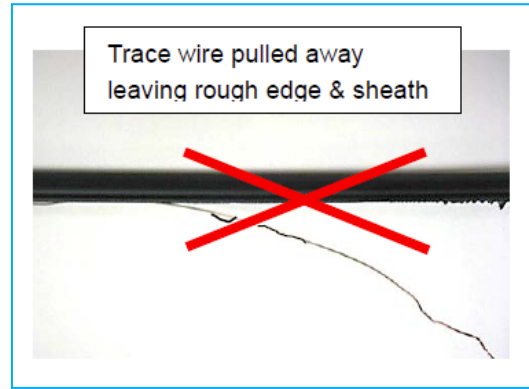


Photo 63

If cable is shielded and to be grounded proceed to **Section 6**, Cable bonding and grounding.

Proceed to **Section 7** to assemble cable retention hardware to each cable end opening.

5.2.3.4 Separate buffer tube (s) containing fibers to be spliced from LBT bundle.

5.2.3.5 Snap cable retention assemblies into the appropriate locations.

5.2.3.6 Secure with bolt if grounded. See photos 64-65.

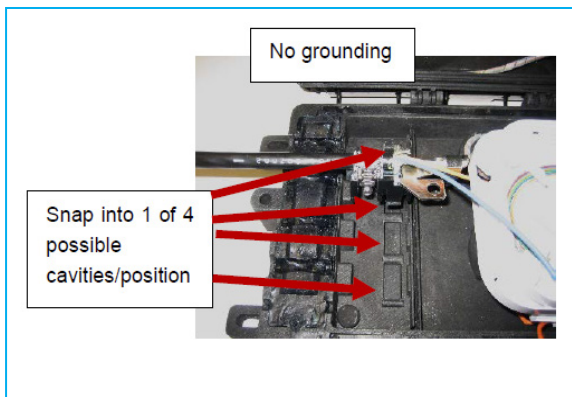


Photo 64

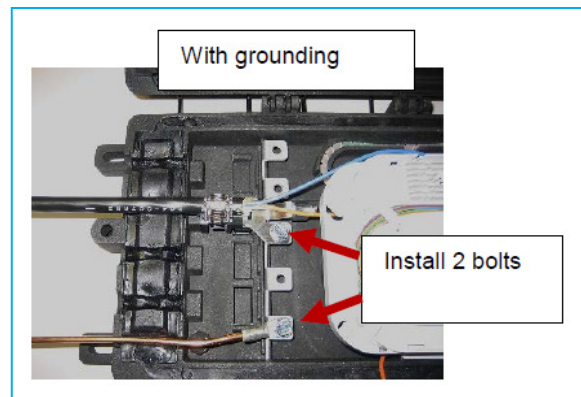


Photo 65

5.2.3.7 If all fibers in a LBT are not to be spliced, route LBT to storage area.

Tray stack may be removed for easier access to storage. See photos 66-68.

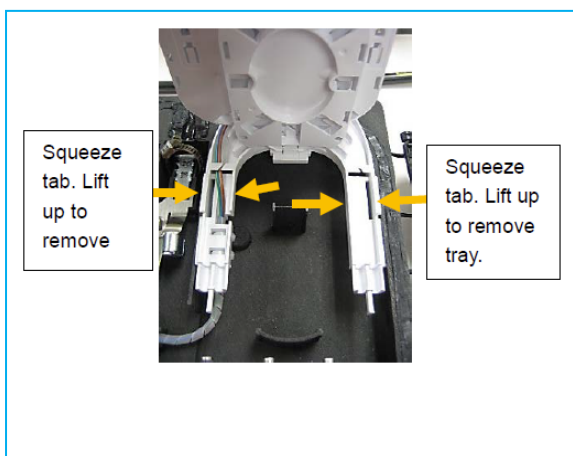


Photo 66

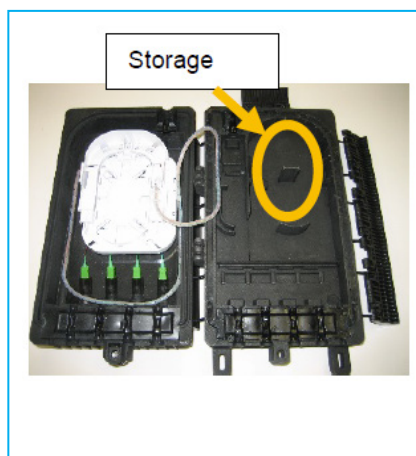


Photo 67

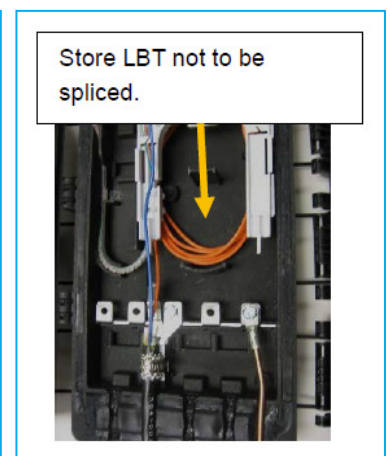


Photo 68

5.2.3.8 Mark buffer tube 17" from sheath opening, ring cut and remove tubing. See Figure 12.

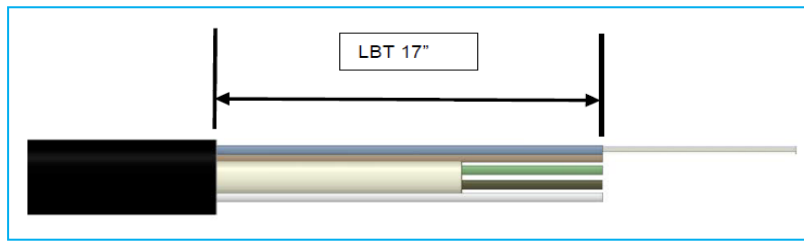


Figure 12

Proceed to **Section 8**, Fiber organizing/storage, routing and splicing.

#### 5.2.4 Stub - ribbon central core

Butt Stub (cable end) configuration

Preparation of Inline stub configuration ribbon central core tube.

5.2.4.1 Remove **55"** of outer sheath from end of cable. See Figure 13.

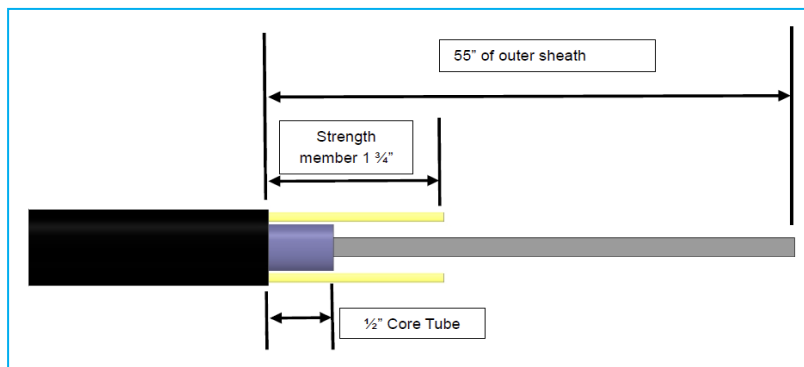


Figure 13

5.2.4.2 Cut strength member(s) **1 3/4"** from end of sheath opening. See Figure 13.

5.2.4.3 Remove core tube from ribbon leaving **1/2"** core tube, measured from the cable sheath openings. See Figure 13.

5.2.4.4 Cut one **1/2"** long piece of black felt tape and wrap around core tube. See photos 69-71.

 **Note:** Steel strength members may be temporarily bent apart to aid in application of tape. See photos 69-71.

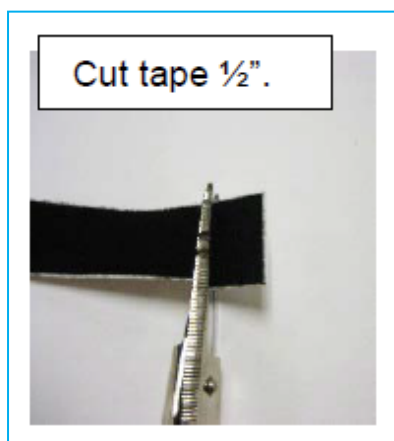


Photo 69

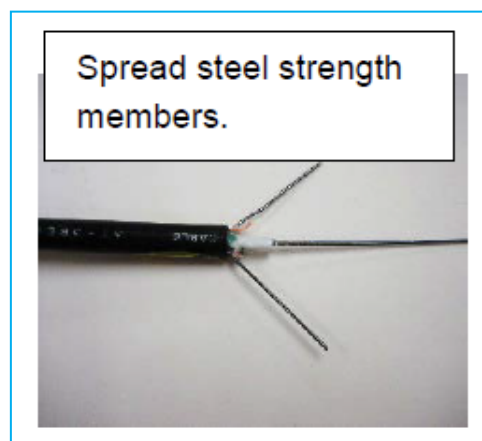


Photo 70

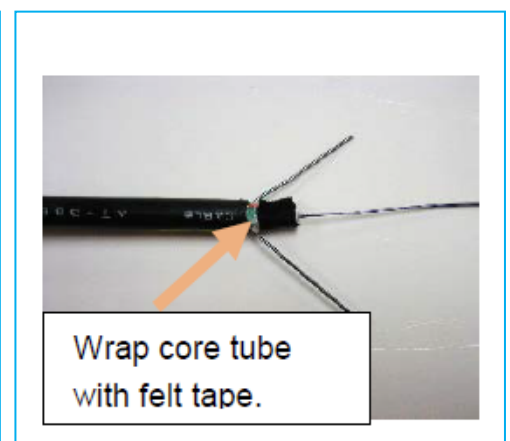


Photo 71

5.2.4.5 Cut 1 piece of spiral wrap **10"** in length.

5.2.4.6 Wrap spiral wrap around ribbon so that it wraps around the **1/2"** core tube.

5.2.4.7 Secure with cable tie. See photos 72-74.

 **Note:** Straighten steel strength members back into original position.

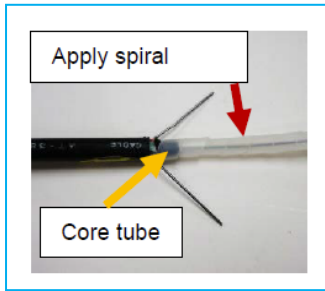


Photo 72

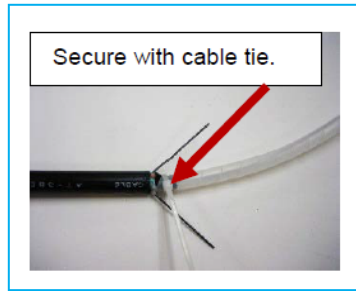


Photo 73

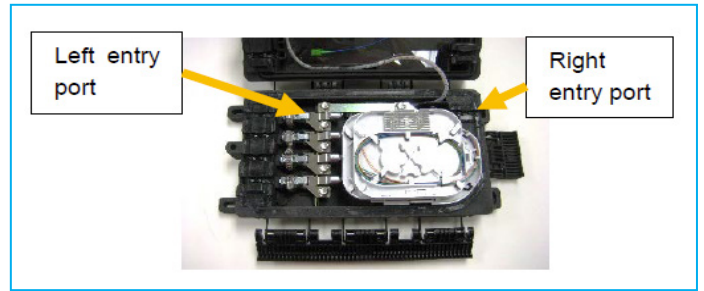


Photo 74

If cable is shielded and to be grounded proceed to **Section 6**, Cable bonding and grounding.

Proceed to **Section 7**, Cable retention.

5.2.4.8 Snap cable retention assembly into the appropriate location.

5.2.4.9 Secure with bolts if grounded. See photos 75-77.

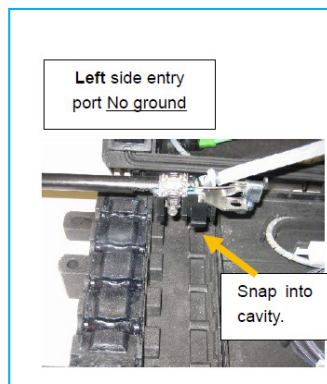


Photo 75

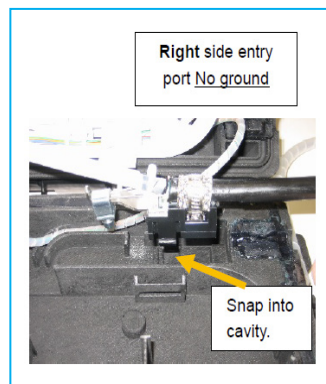


Photo 76

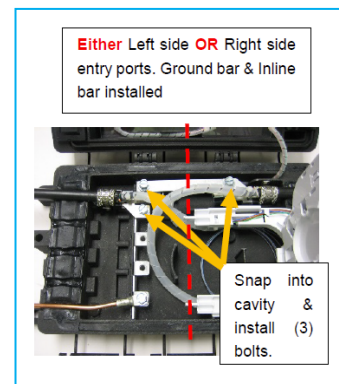


Photo 77

5.2.4.10 Remove ribbon containing fiber(s) to be spliced from fiber stack.

5.2.4.11 If ribbons are not to be spliced, route to storage area.

Tray stack may be removed for easier access to storage. See photos 78-81.

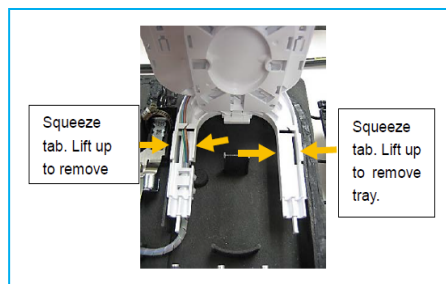


Photo 78

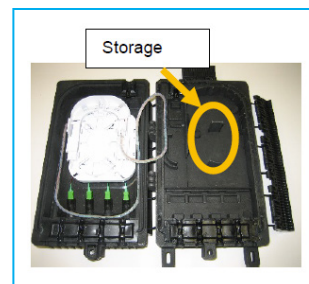


Photo 79

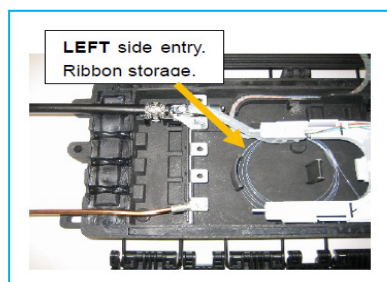


Photo 80

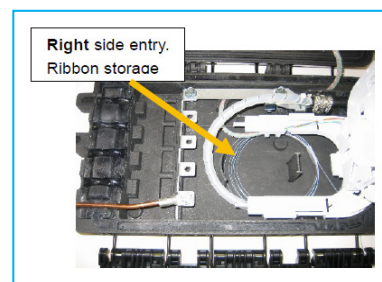


Photo 81

Proceed to **Section 8** Fiber organizing/storage, routing and splicing.

## 6 Cable bonding and grounding

6.1 For cable with shielding, remove a section of the outer sheath 180° around the cable by 1.0" in length measured from the end of the outer sheath in order to expose cable shielding. See photo 82.

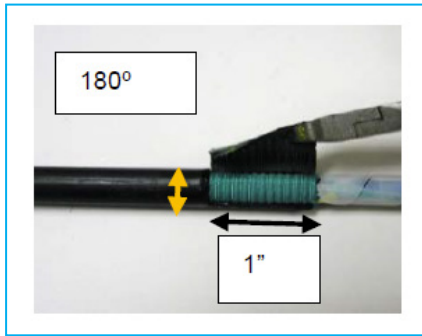
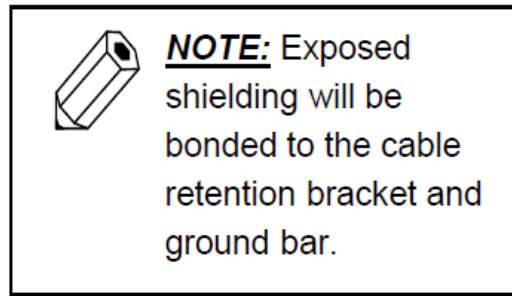


Photo 82



6.2 For grounding, press ground bar into slot in closure.

6.3 If using Inline configuration, install inline ground bar and secure with bolt. See photo 83.

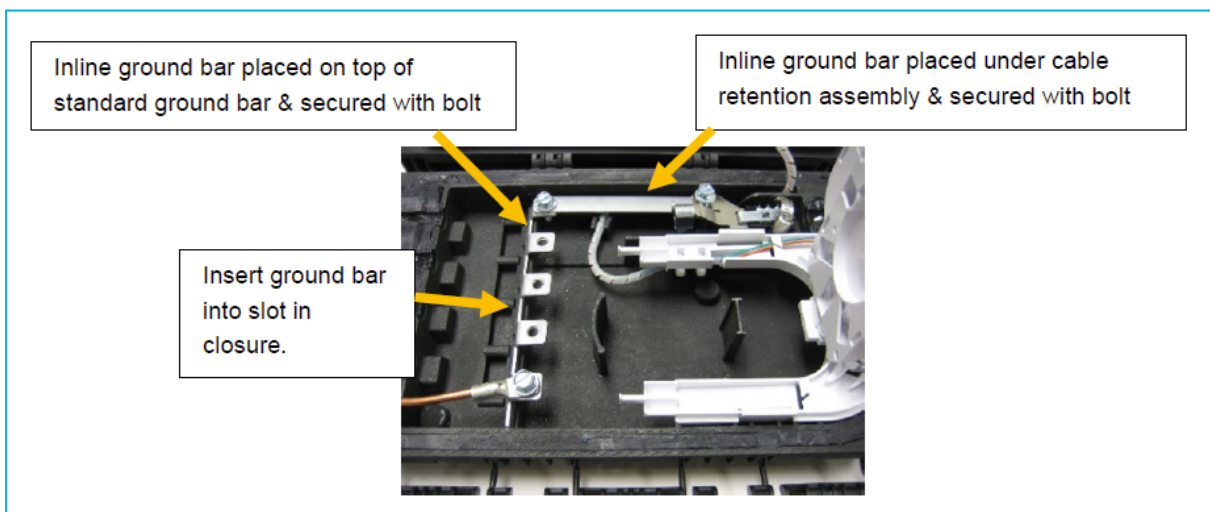


Photo 83

6.4 External ground connection is to be placed in designated location.

6.5 The ground wire is to be secured using the same bolt that is used to secure the cable retention assembly or secured with bolt. See photo 84.

**▶ Caution:** Do not use braided or stranded ground wire when installing a ground through a port on the Mini-OTE 300 closure. A solid ground wire is required to prevent a leak path and make a proper seal.

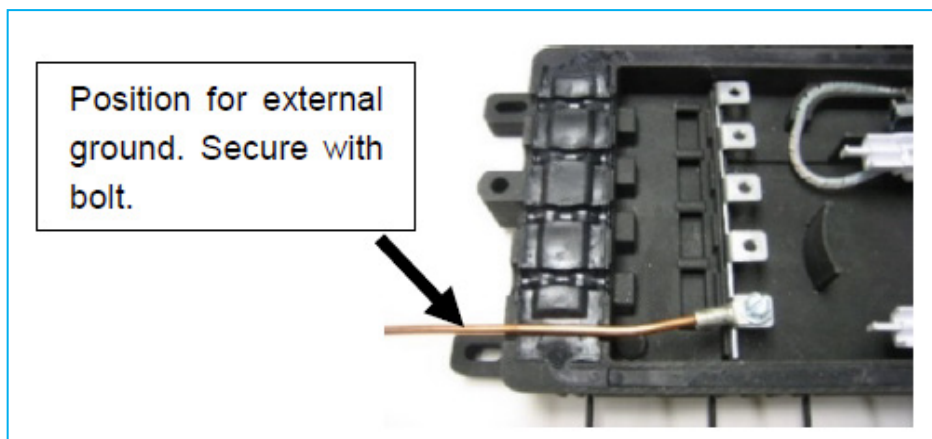


Photo 84

## 7 Cable retention

7.1 If LBT cable, remove any dummy buffer tubes by cutting at cable sheath opening. See photo 85.

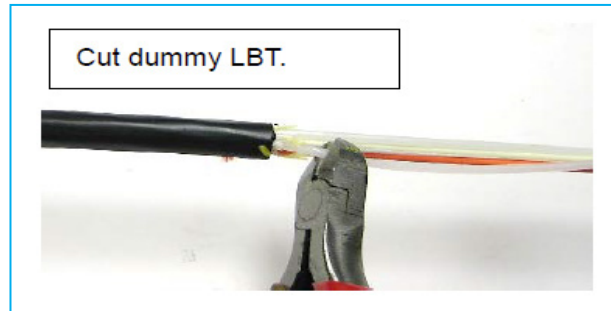


Photo 85

7.2 Open hose clamp on cable retention assembly.

7.3 Place cable retention assembly around cable. If cable is shielded and to be grounded, orient the sheath opening, which exposes the shielding, toward the base of retention clamp. See photos 86-87.

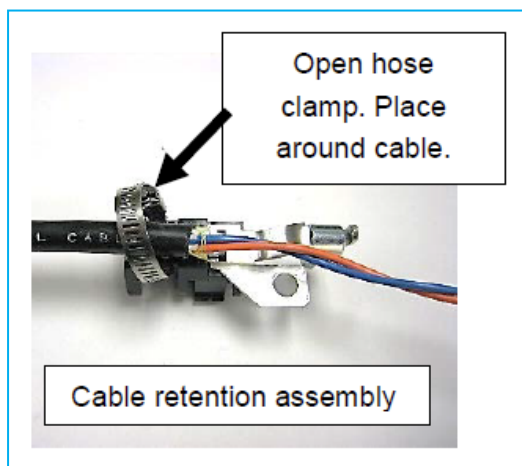


Photo 86

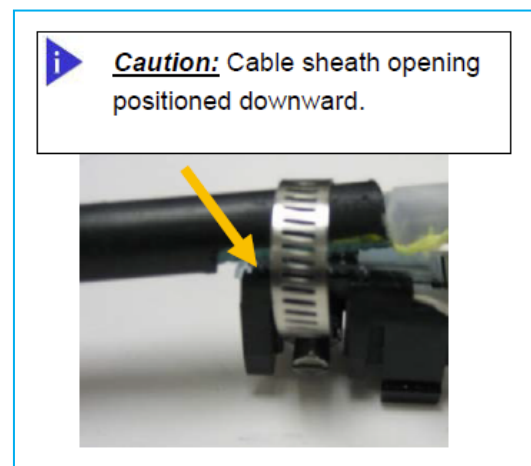


Photo 87

7.4 Insert strength member(s) into lug and tighten. See photo 88.

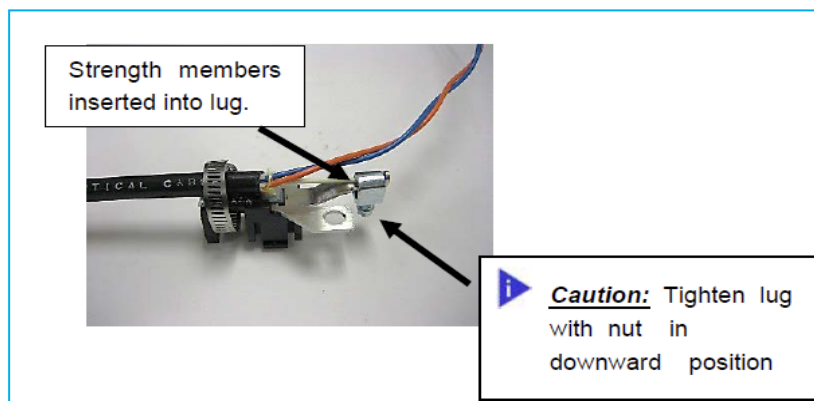


Photo 88

7.5 Cut perforated foil into 3 pieces (note orientation) and form over cable. If Flat Drop, wrap around drop. See photos 89-91.

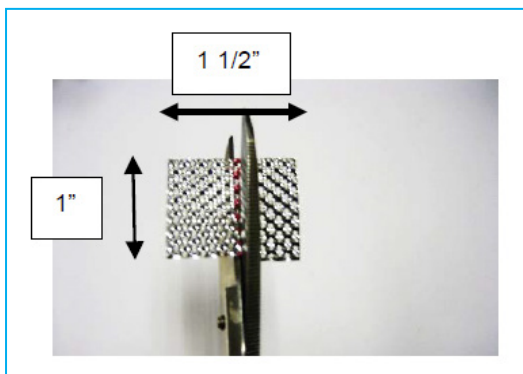


Photo 89

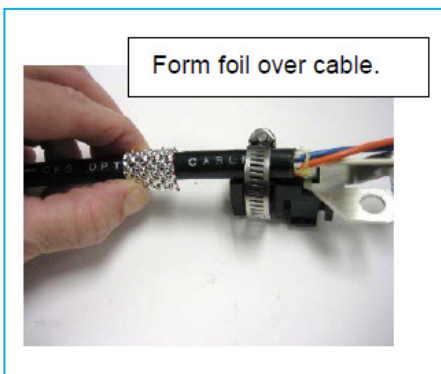


Photo 90

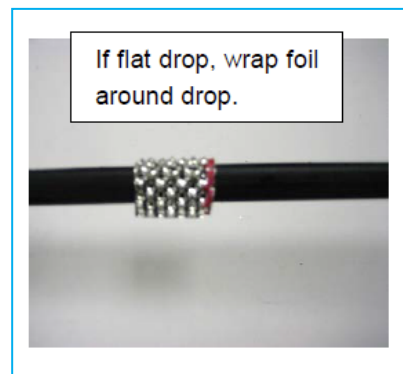


Photo 91

7.6 Place 1 pc of perforated foil between the hose clamp and outer sheath of cable.

7.7 Tighten hose clamp being sure to keep the screw head positioned under the cable retention assembly in order to avoid interference when installing closure. See photos 92-93.

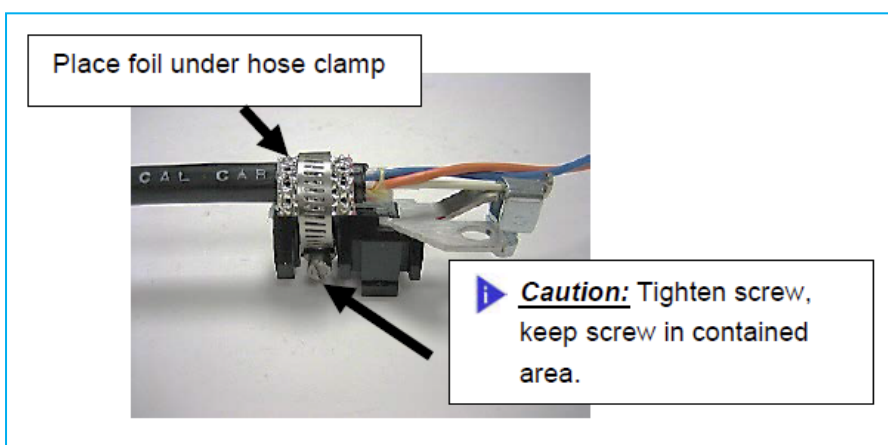


Photo 92

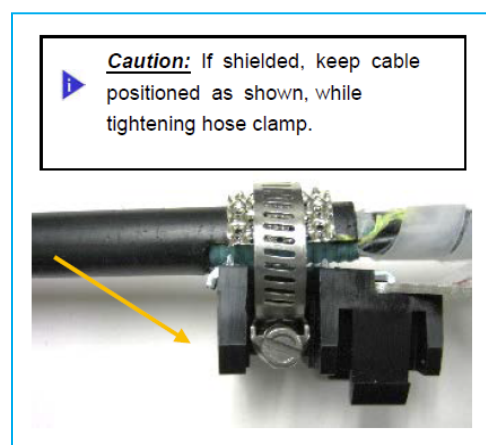


Photo 93

## 8 Fiber organizing/storage, routing and splicing

### 8.1 Mid-sheath loose buffer tube (LBT)

8.1.1 Route LBT to be spliced to routing tray. See photo 94.

 **Note:** Left side LBTs to be routed first. Right side LBTs to cross over LBTs from left side. Otherwise, route buffer tube directly to routing tray.

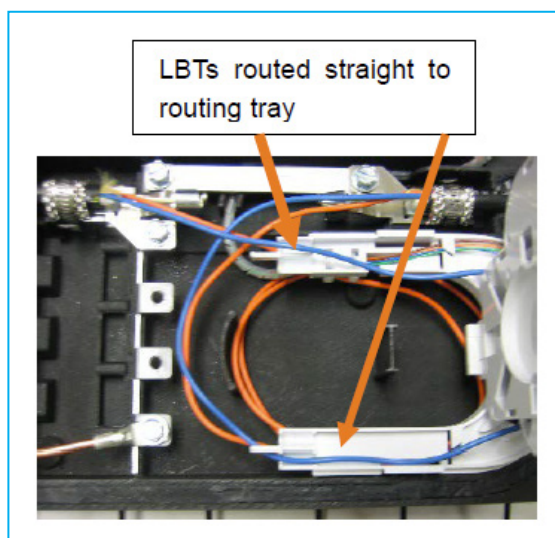
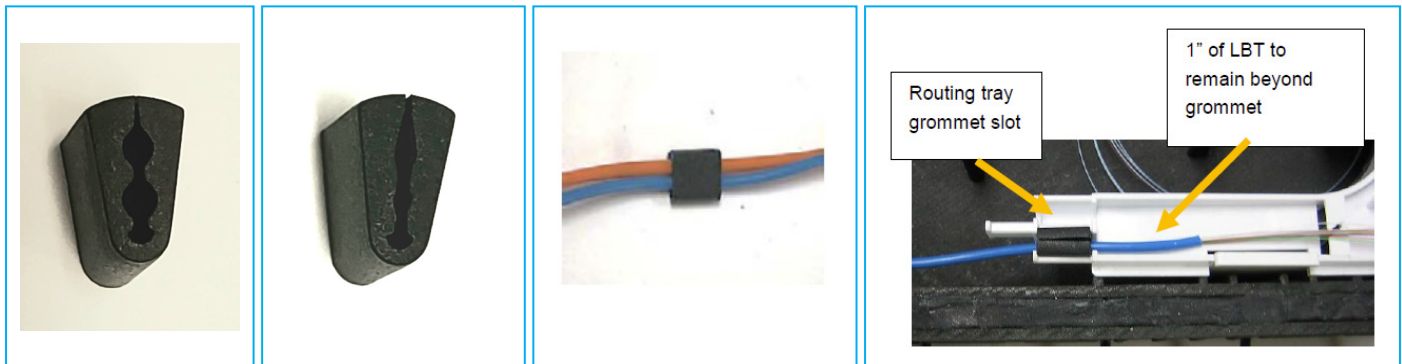


Photo 94

- 8.1.2 Place appropriate grommet onto buffer tube. If more than one buffer tube, both may be installed into one grommet.
- 8.1.3 Insert into routing tray, sliding grommet to align with retaining groove in routing tray.
- 8.1.4 Secure with cable tie. See photos 95-100.



Standard LBT  
Photo 95

Micro Grommet LBT  
Photo 96

Photo 97

Photo 98

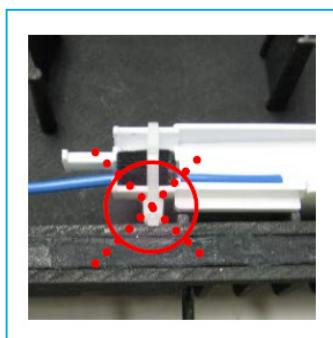


Photo 99

**i** Secure with cable tie so that it is oriented as shown in photo 100

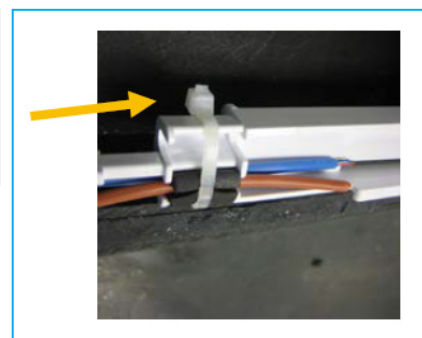


Photo 100

- 8.1.5 Repeat steps 8.1.1 to 8.1.4 with buffer tube coming from other end of cable.
- 8.1.6 Route express fibers and fibers cut "dead to field" to the Feed Thru tray. See photo 101

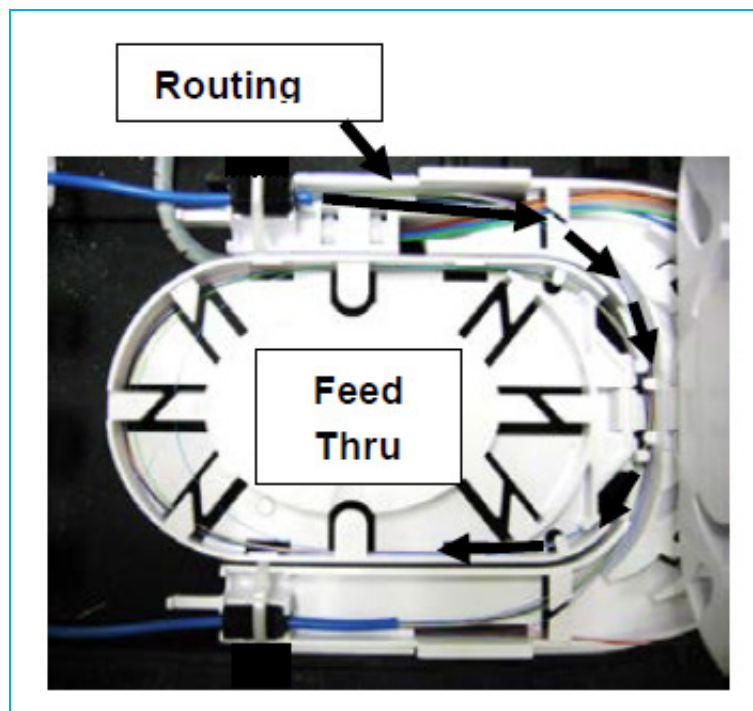


Photo 101

- 8.1.7 Route fiber(s) to be spliced to top tray. See photos 102-104.



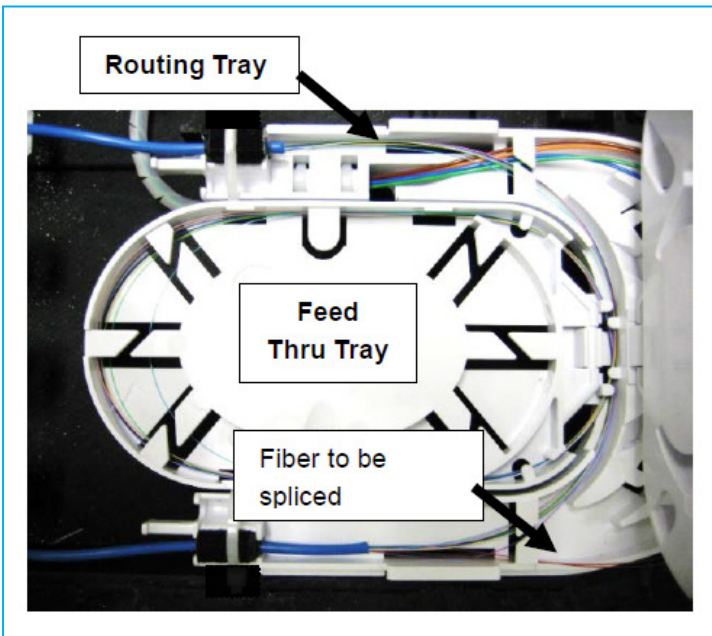


Photo 102

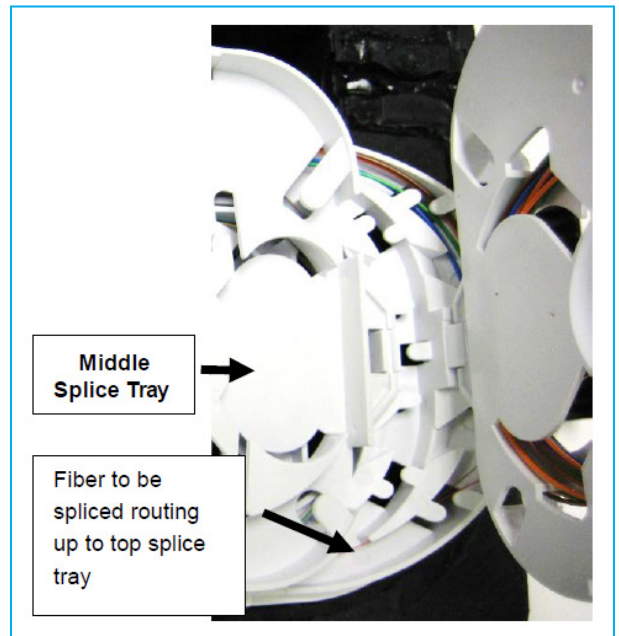


Photo 103

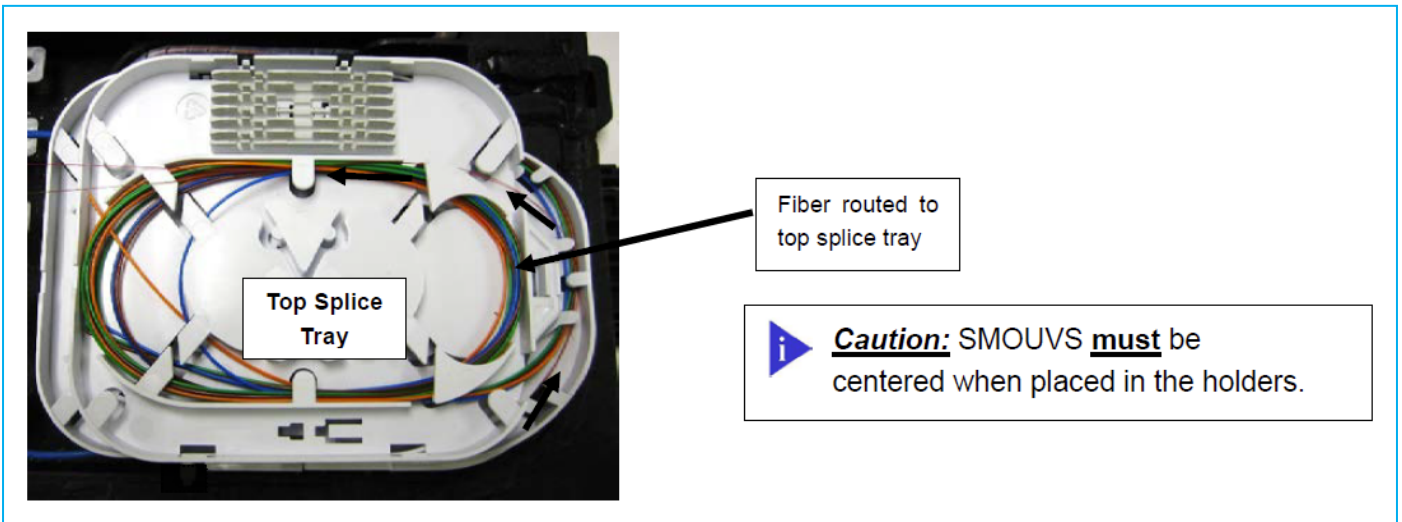


Photo 104

- 8.1.8 Splice per standard practice.
- 8.1.9 Replace dust cover on tray after splicing.

## 8.2 Stub loose buffer tube (LBT)

Use this section for Inline and Butt stub LBT

- 8.2.1 Store one loop of buffer tube and proceed to routing tray. See photos 105-106.

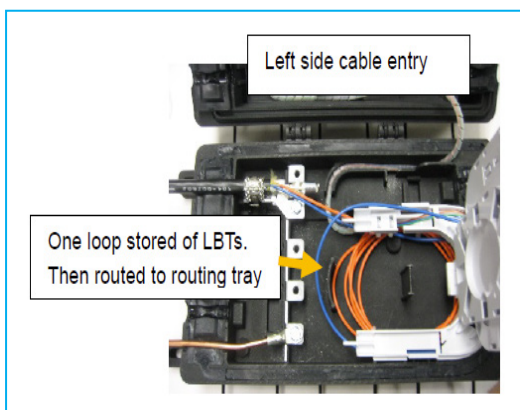


Photo 105

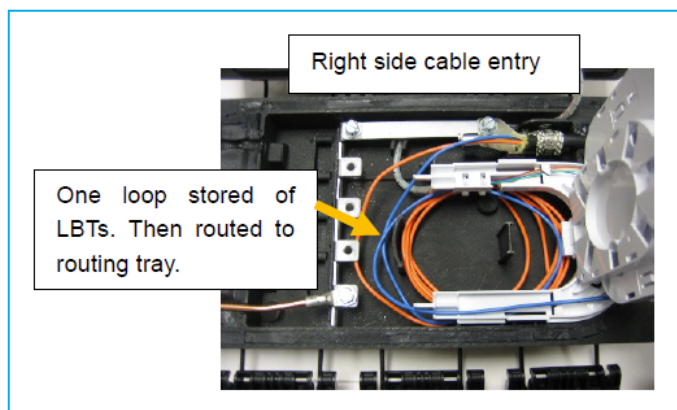
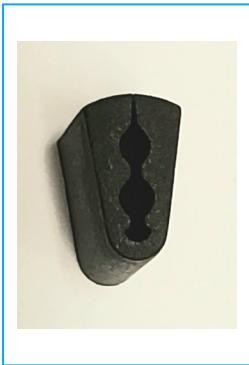


Photo 106

- 8.2.2 Place appropriate grommet onto buffer tube. If more than one buffer tube, both may be installed into one grommet.
- 8.2.3 Insert into routing tray sliding grommet to align with retaining groove in routing tray.
- 8.2.4 Secure with cable tie. See photos 107-112.



Standard LBT  
Photo 107



Micro Grommet LBT  
Photo 108



Photo 109

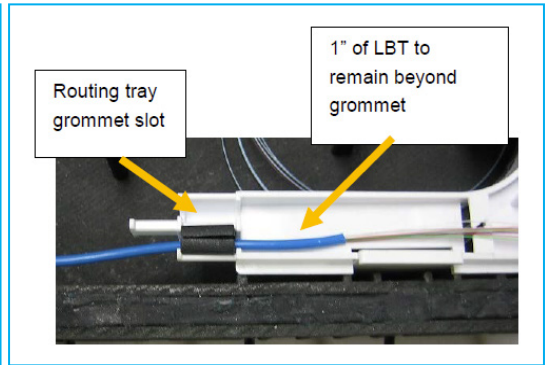


Photo 110

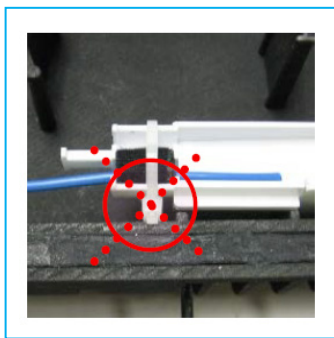


Photo 111

**Caution:** Secure with cable tie so that it is oriented as shown in photo # 112

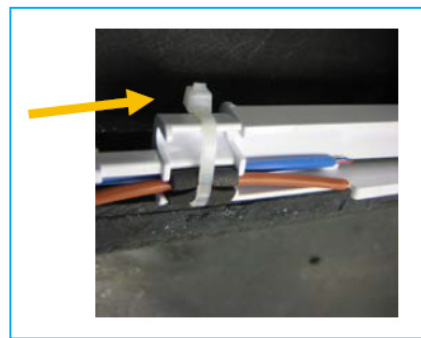


Photo 112

- 8.2.5 Route fiber(s) not to be spliced to Feed thru tray. See photo 113.

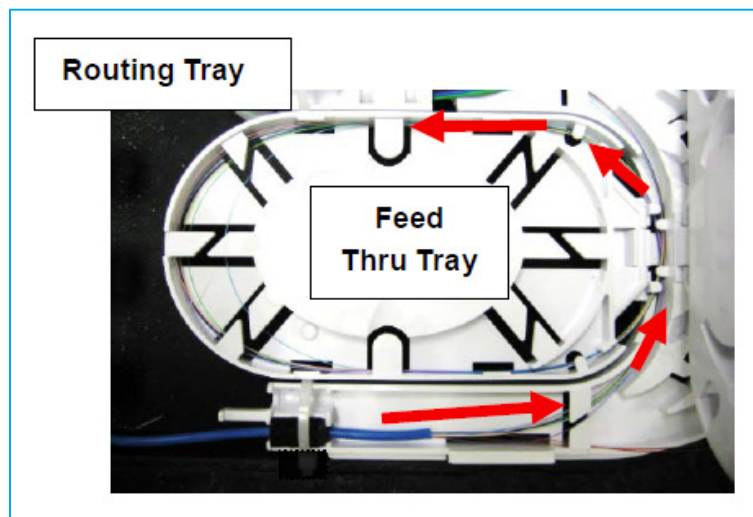


Photo 113

8.2.6 Route fiber(s) to be spliced to top splicing tray. See photos 114-116.

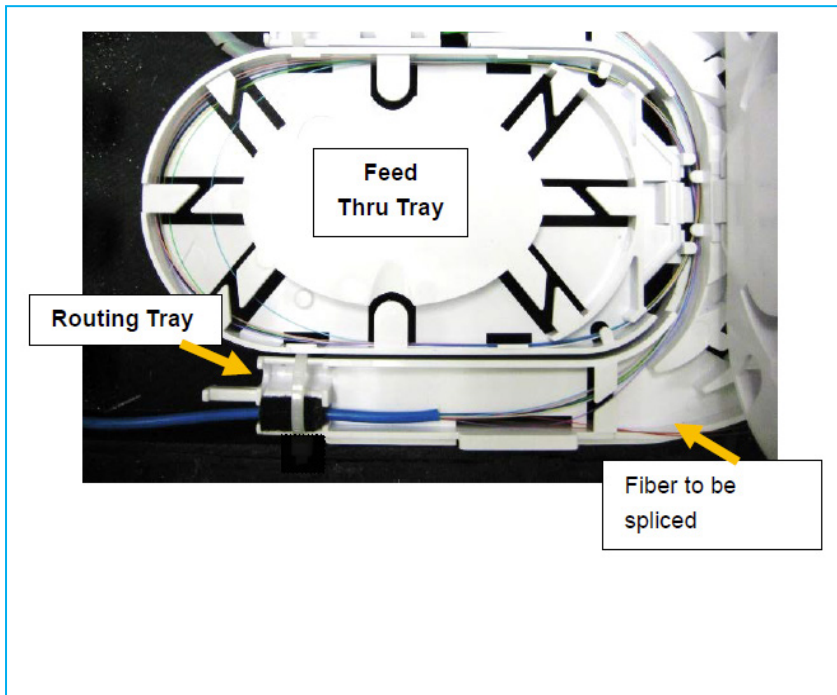


Photo 114

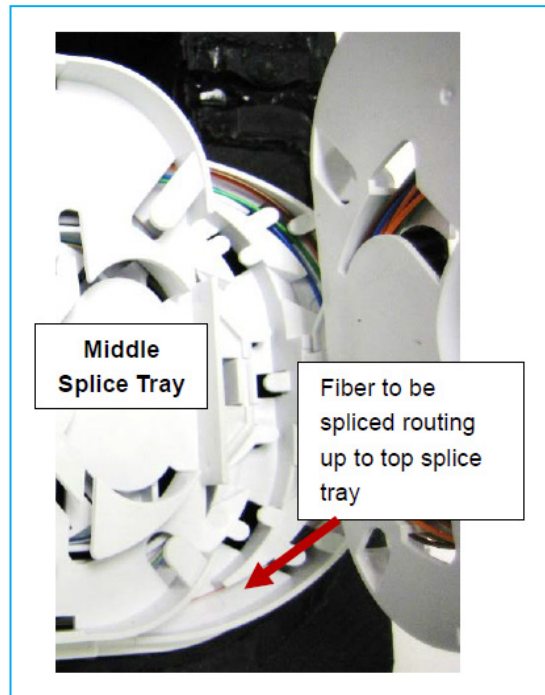


Photo 115

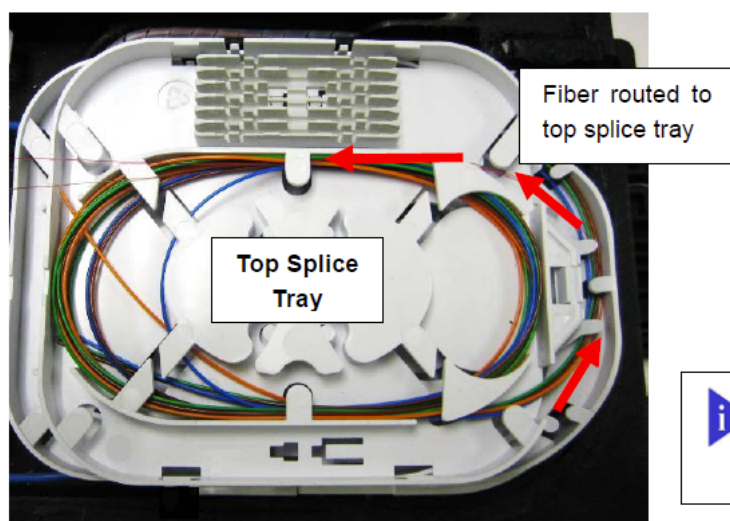



Photo 116

 **Caution:** SMOUVS must be centered when placed in the holders.

8.2.7 Splice per standard practice.

8.2.8 Replace dust cover on tray after splicing.

### 8.3 Mid-sheath ribbon central core

8.3.1 Route ribbon to tray entry points and mark ribbon 1" beyond grommet locations.

8.3.2 De-ribbonize fiber between marks. See photos 117-118.

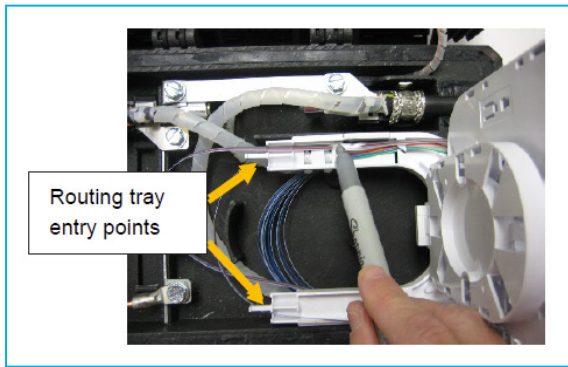


Photo 117

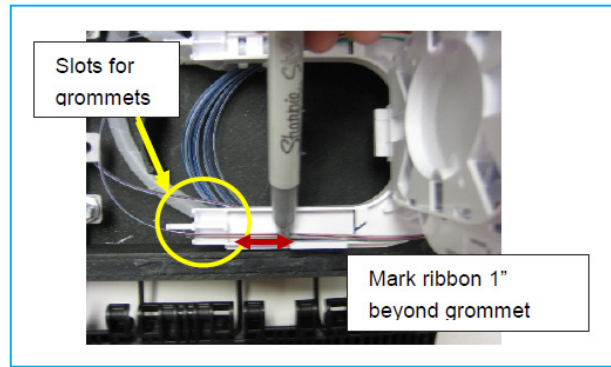


Photo 118

8.3.3 Install ribbon grommets onto ribbon one inch before de-ribbonize point.

8.3.4 Install grommets into routing tray and secure with cable tie. See photos 119-122.



Ribbon Grommet  
Photo 119

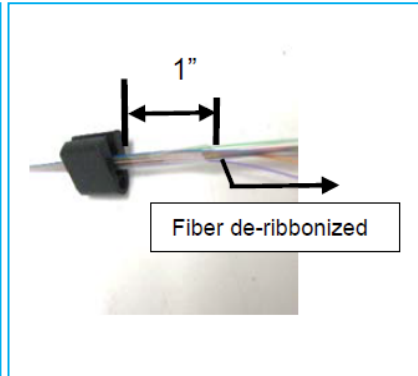


Photo 120

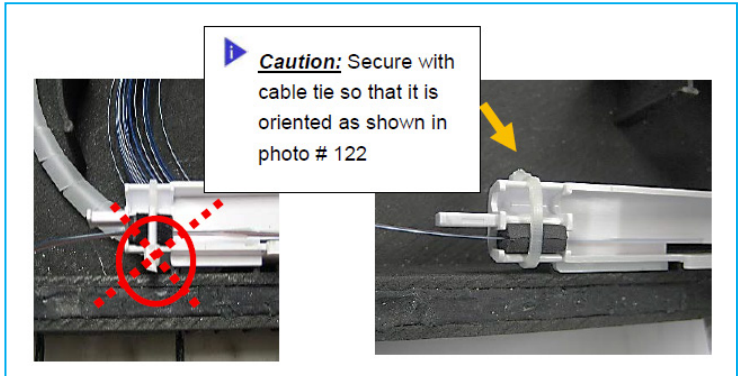


Photo 121

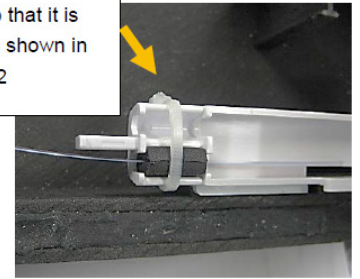


Photo 122

8.3.5 Repeat steps 8.3.1 – 8.3.4 with fiber coming from other end of cable.

8.3.6 Cut fibers to be spliced 41" from the signal input side.

8.3.7 Route express fibers onto feed thru tray. See photo 123.

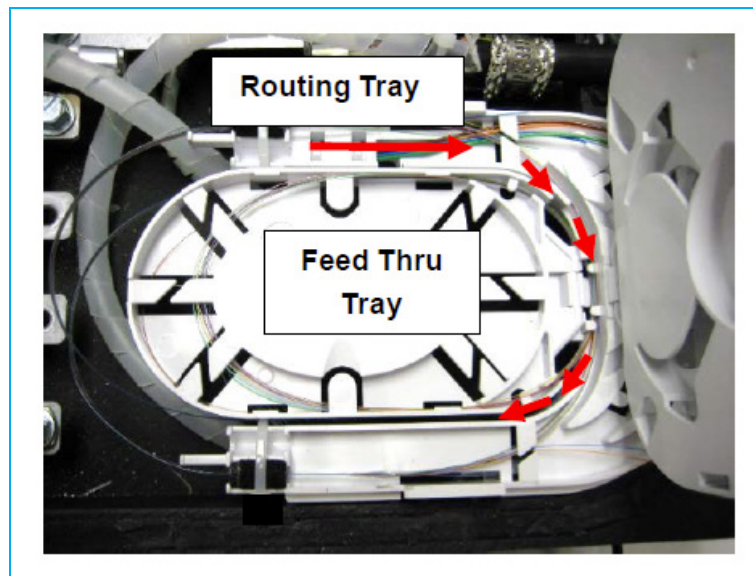


Photo 123

8.3.8 Route fibers to be spliced to top tray. See photos 124-126.

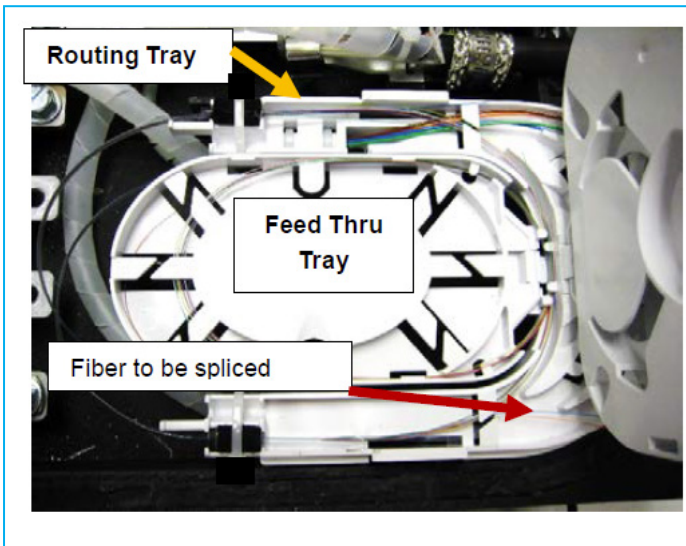


Photo 124

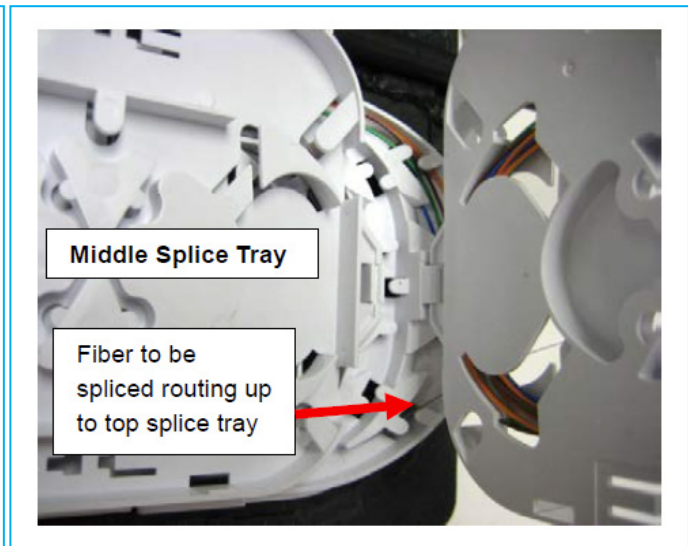


Photo 125

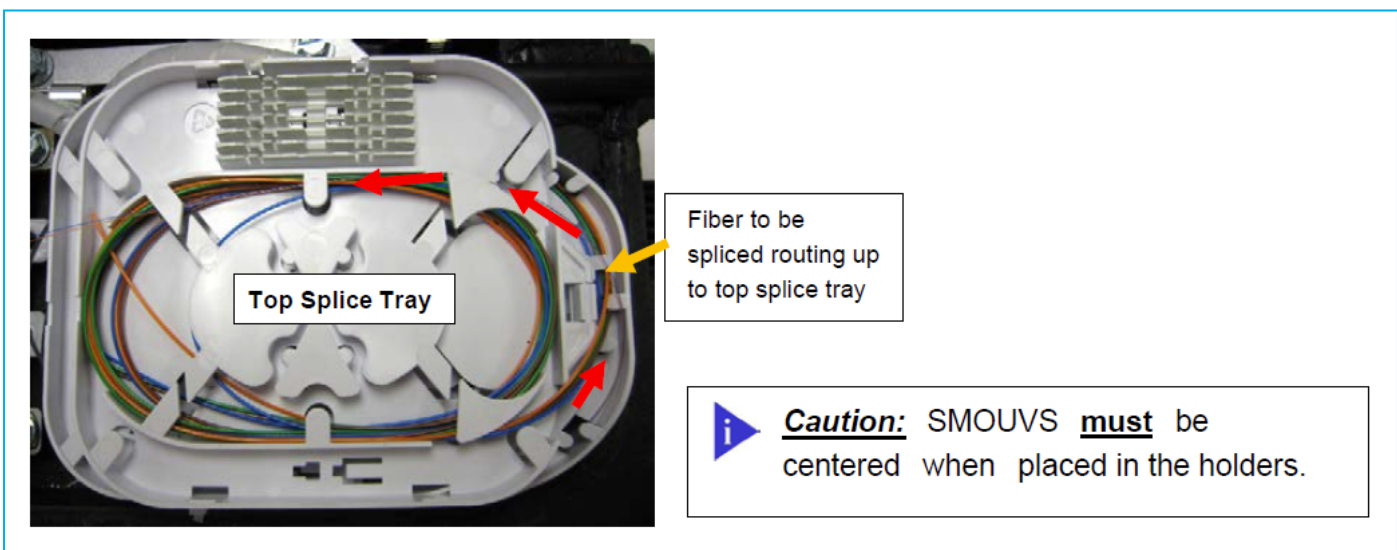


Photo 126

- 8.3.9 Splice per standard practice.
- 8.3.10 Replace dust cover on tray after splicing.

## 8.4 Stub ribbon central core

- 8.4.1 Store one loop of fibers to be spliced and route ribbon to tray entry point.
- 8.4.2 At tray entry point, mark ribbon 1" beyond grommet location. See photos 127-128.

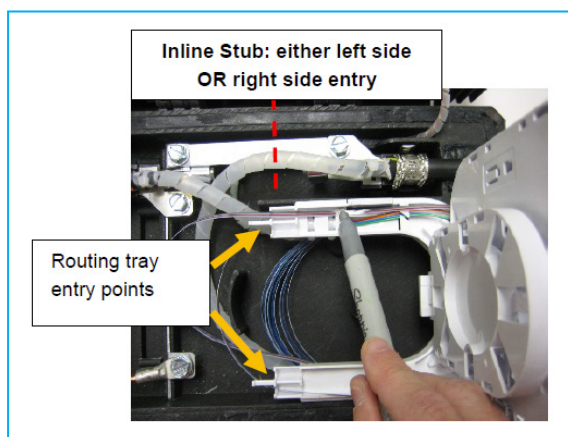


Photo 127

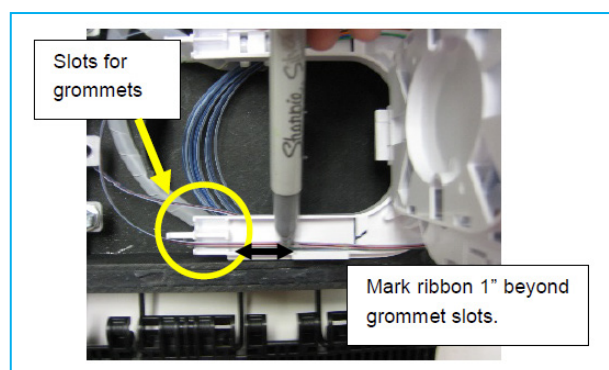


Photo 128

- 8.4.3 De-ribbonize fiber from mark to end of fiber.

8.4.4 Install ribbon grommet onto ribbon 1" before de-ribbonize point.

8.4.5 Install grommets onto routing tray and secure with cable tie. See photos 129-132



Ribbon Grommet  
Photo 129

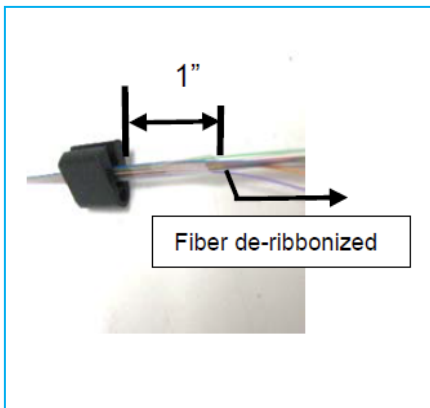


Photo 130

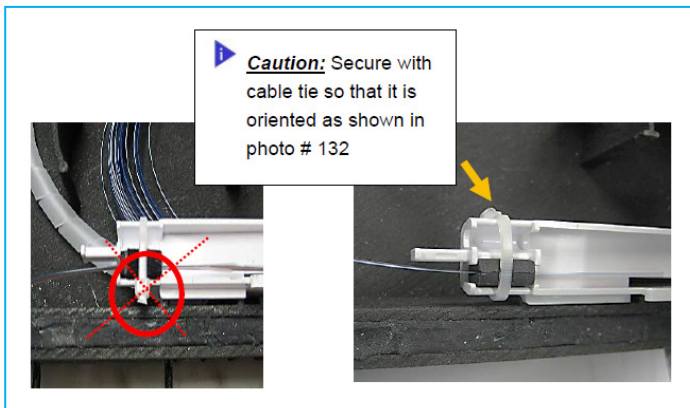


Photo 131

Photo 132

8.4.6 Route fibers that will not be spliced onto Feed Thru tray. See photo 133.

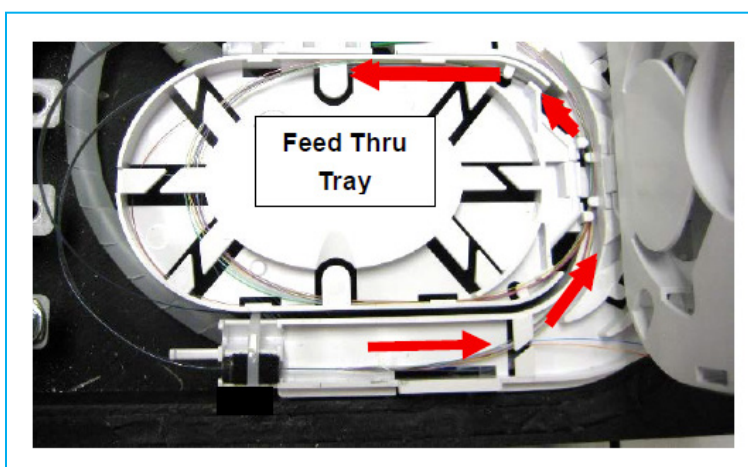


Photo 133

8.4.7 Route fibers to be spliced to top splice tray. See photos 134-136.

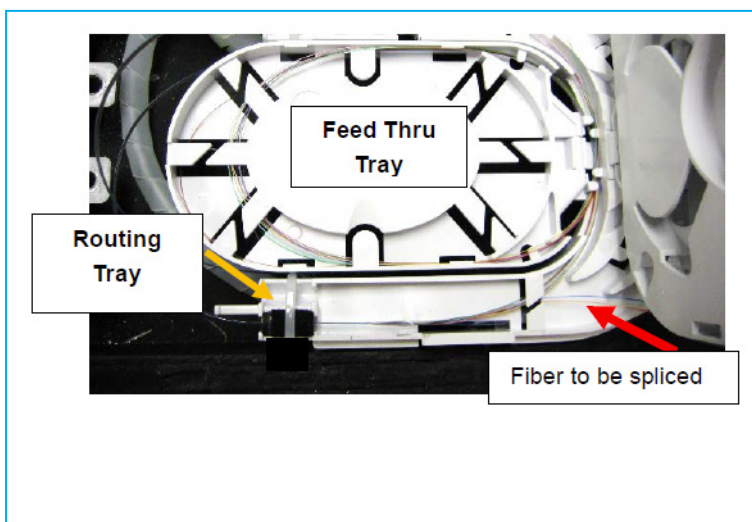


Photo 134

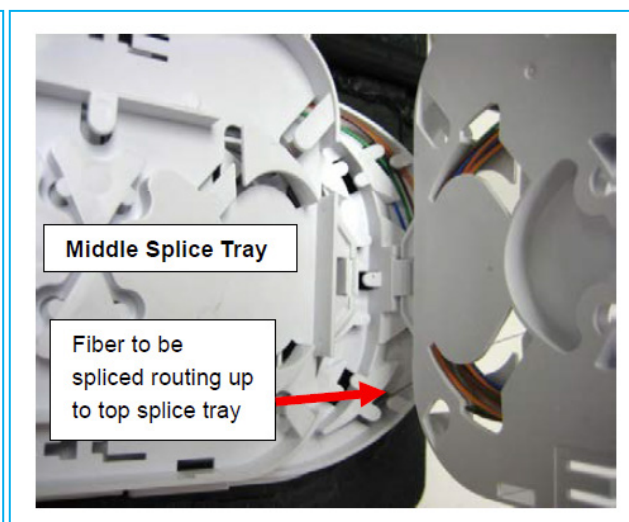


Photo 135

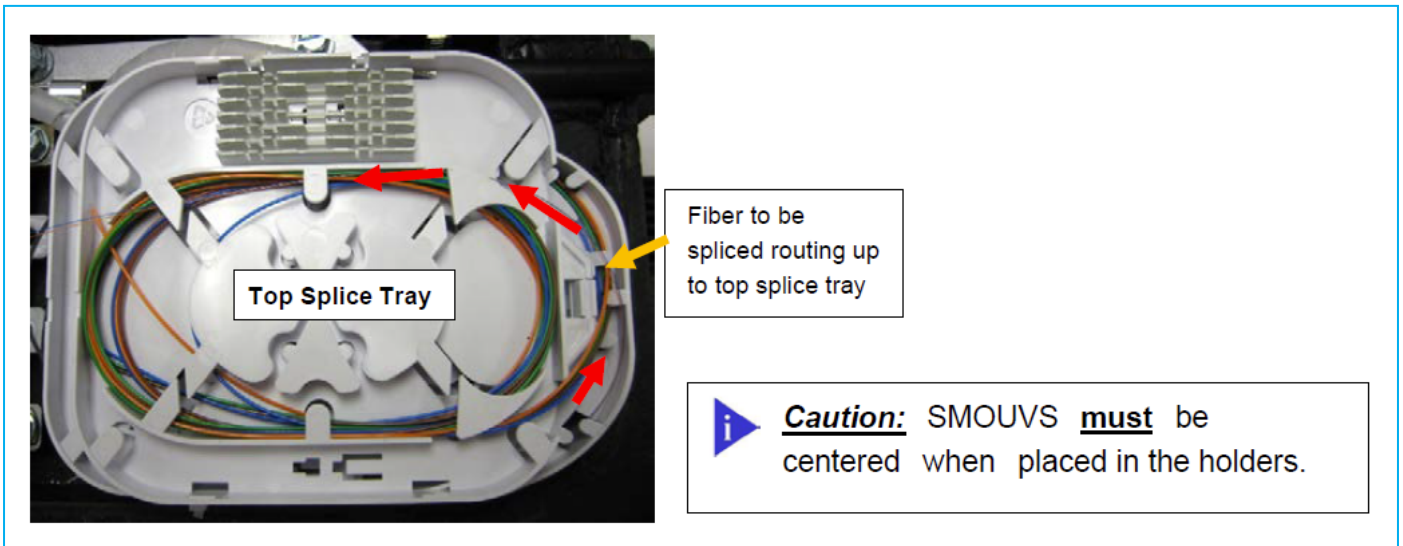


Photo 136

- 8.4.8 Splice per standard practice.
- 8.4.9 Replace dust cover on tray after splicing.

## 9 Closing/securing closure

- 9.4.1 Apply optional routing label inside lid or on tray cover.
- 9.4.2 Install port plugs into all unused ports, including ground port if no ground wire. See photo 137.

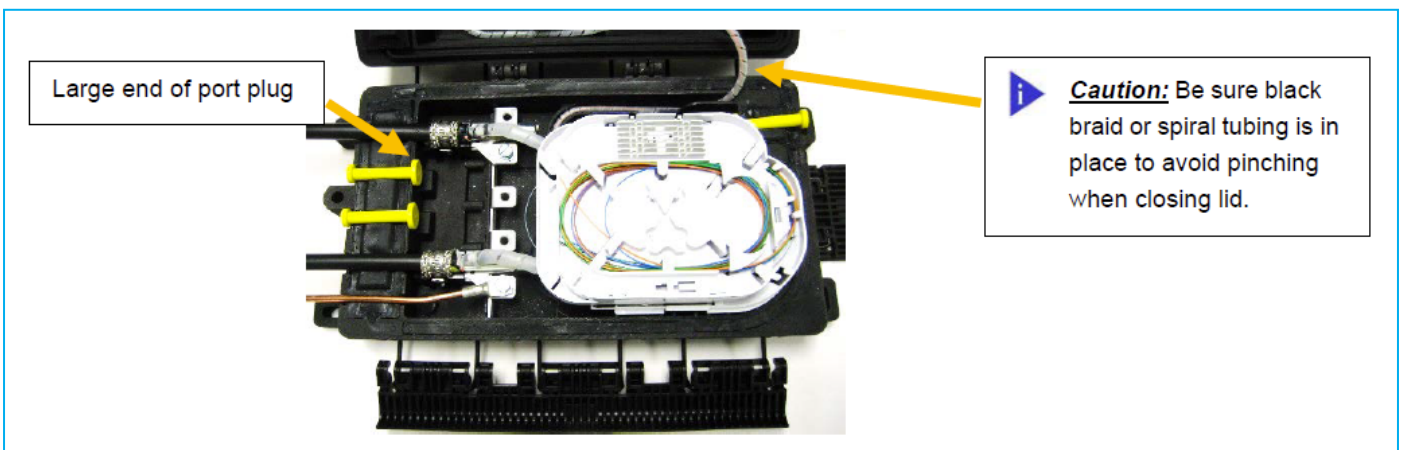


Photo 137

- 9.4.3 Close lid.
- 9.4.4 Ensure all port plugs, ground wire (if present) and cables are properly aligned.

9.4.5 Snap right side hinge, left side hinge, then top hinge. Hinges can be closed using **screwdriver** or **by hand**. See photos 138-140.

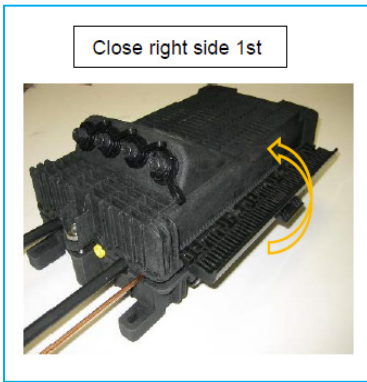


Photo 138

**Note:** To assist in closing the right side latch, the top can be pressed closed and the security screw can be started to hold the top closed. Then, the right side latch can be closed.



Photo 139



Photo 140

9.4.6 Tighten security bolt. See photo 141.

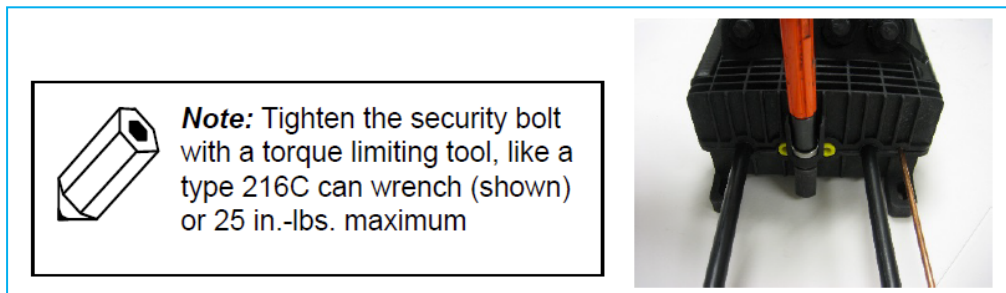


Photo 141

## 10 Mounting closure

10.4.1 For pedestal mounting, assemble mounting bracket(s) to back of housing.

10.4.2 Assemble to plate or rod. See photos 142-146.



Photo 142



Photo 143



Photo 144



Photo 145



Mounted with Supplementary Strand Mount Kit # 760235507

Photo 146

10.4.3 For strand mounting, assemble strand clamps or supplementary mounting brackets to back of housing.

10.4.4 Assemble to line. See photos 147-148.





Photo 147

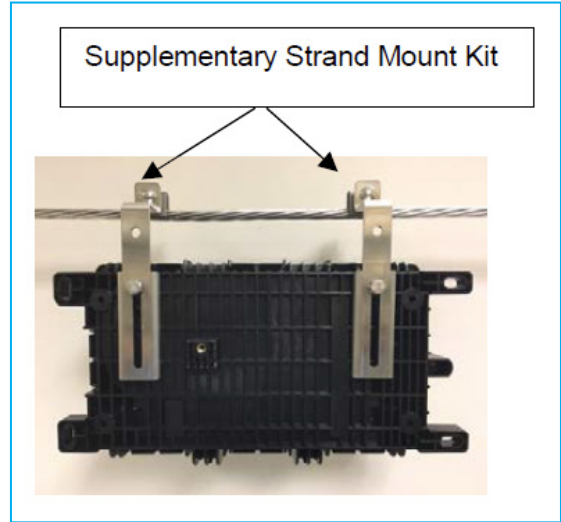


Photo 148

10.4.5 For pole mounting, assemble supplementary mounting brackets to back of housing and assemble to pole. See photo 149.

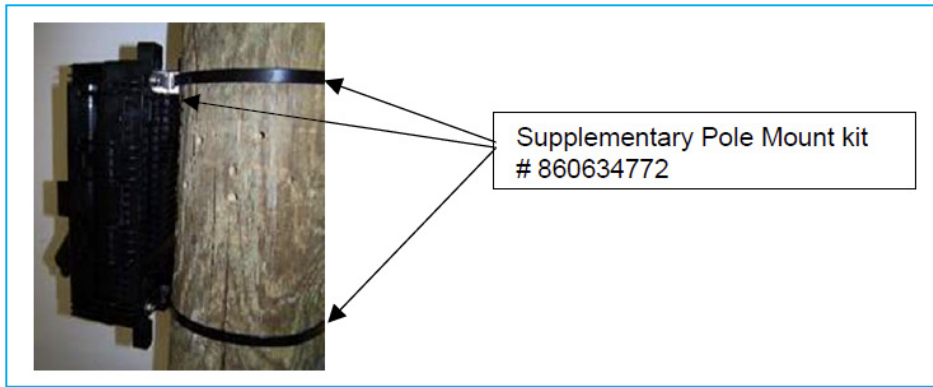
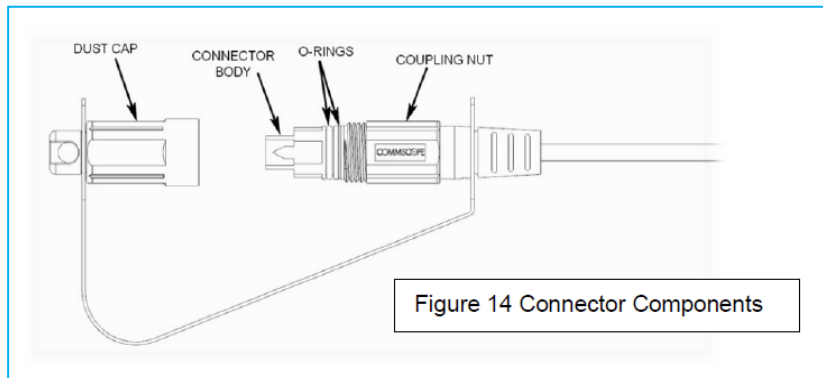


Photo 149

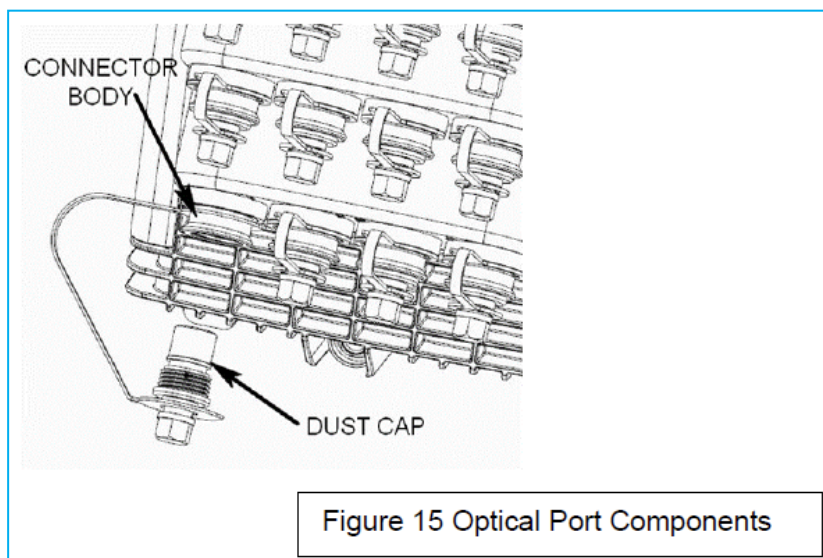
# 11 Hardened drop cable installation

Hardened connectors and adapters provide sealed environmental protection for the subscriber drop cable connector and the SC adapter mounted within the Mini-OTE optical port. The following sections provide a description of the connector and adapter components and provide instructions for connecting or disconnecting the drop cable to/ from the optical ports.

The basic components of the drop cable connector are shown in Figure 14. The dust cap threads onto the connector coupling nut. A pair of O-rings on the connector body provide a tight seal when the dust cap is in place. A pulling eye is provided in the end of the dust cap for pulling the drop cable through conduit.



The basic components of the Mini-OTE optical port hardened adapter are identified below in Figure 15. The dust cap threads into the adapter housing. An O-ring on the dust cap provides a tight seal when the dust cap is in place. The 216C key tool is required to remove the dust cap.



## CONNECTING DROP CABLE TO MINI-OTE OPTICAL PORT

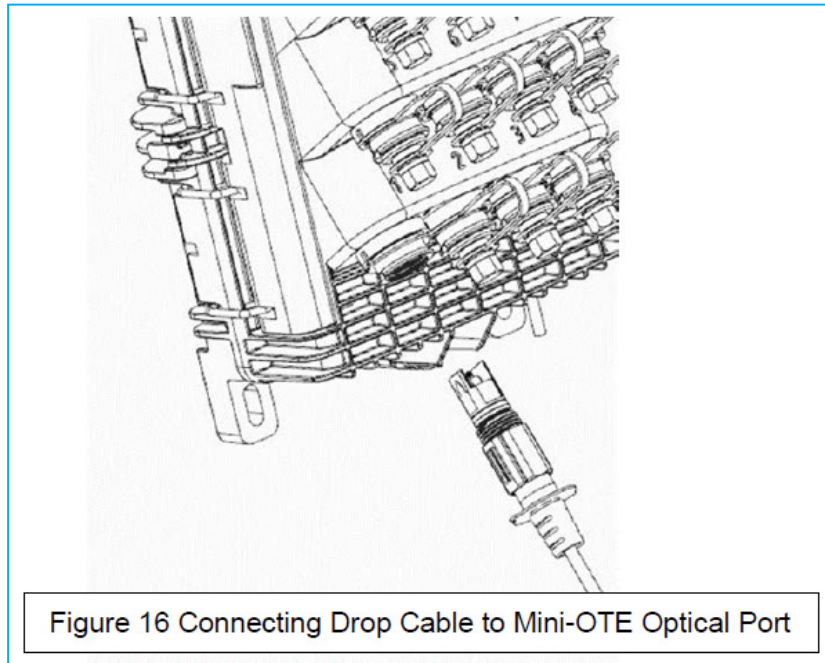
**Danger:** Exposure to laser radiation can seriously damage the retina of the eye. Do not look into the ends of any optical fiber. Do not assume the laser power is turned-off or that the fiber is disconnected at the other end. Use the following procedure to connect a drop cable to an optical port on the Mini-OTE enclosure:

- 11.1 Unscrew the dust cap from the drop cable connector (see Figure 17).
- 11.2 Inspect the drop cable connector O-rings for dryness and wipe clean of any residual lube and dust/dirt/debris.

**Note:** The connector O-rings are pre-lubricated by the factory and should not require additional lubrication for the initial assembly.

- 11.3 Use the 216C key tool (accessory) to unscrew the dust cap (see Figure 15) from the Mini-OTE optical port
- 11.4 Clean both the optical port adapter and the drop cable connector (requires accessory kit FHD-ACC-CLNKIT1) as specified in ADCP-96-067.

- 11.5 Align the drop cable connector with the optical port as shown in Figure 16. The pointer on the drop cable connector should line up with the notch on the optical port.

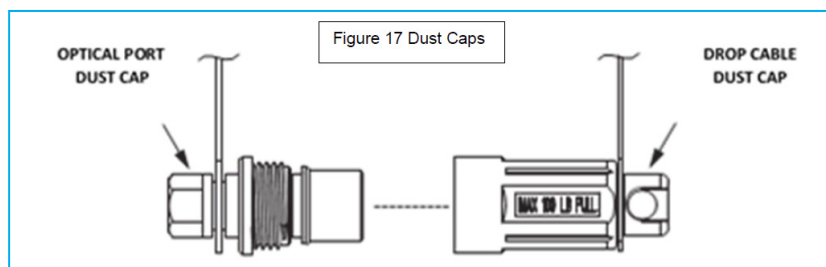


- 11.6 Insert the drop cable connector into the optical port. If the drop cable connector does not insert all the way to the bottom of the port, rotate drop cable connector slightly to either side until it slides freely into place.
- 11.7 Thread the drop cable connector coupling nut into the optical port and tighten coupling nut until finger tight.
- 11.8 Inspect the optical port dust cap O-ring (see Figure 14) for dryness and wipe clean of any residual lube and dust/dirt/debris.



**Note:** The optical port dust cap O-ring is pre-lubricated by the factory and should not require additional lubrication for the initial assembly.

- 11.9 Thread the optical port dust cap into the drop cable dust cap as shown in Figure 17 and then tighten both dust caps finger tight. This ensures that both dust caps will stay clean when not in use.



## DISCONNECTING DROP CABLE FROM MINI-OPE PORT



**Danger:** Exposure to laser radiation can seriously damage the retina of the eye. Do not look into the ends of any optical fiber. Do not assume the laser power is turned-off or that the fiber is disconnected at the other end.

- 11.10 Unscrew the optical port dust cap from the drop cable dust cap (see Figure 14).
- 11.11 Unscrew the drop cable connector coupling nut from the optical port (see Figure 15).
- 11.12 Inspect the optical port dust cap O-ring for dryness and wipe clean of any residual lube and dust/dirt/debris.
- 11.13 Thread the optical port dust cap into the optical port and tighten using the 216C key tool (see Figure 16).
- 11.14 Inspect the drop cable connector O-rings for dryness and wipe clean of any residual lube and dust/dirt/debris.
- 11.15 Thread the drop cable dust cap onto the drop cable connector coupling nut and tighten until finger tight (see Figure 17).

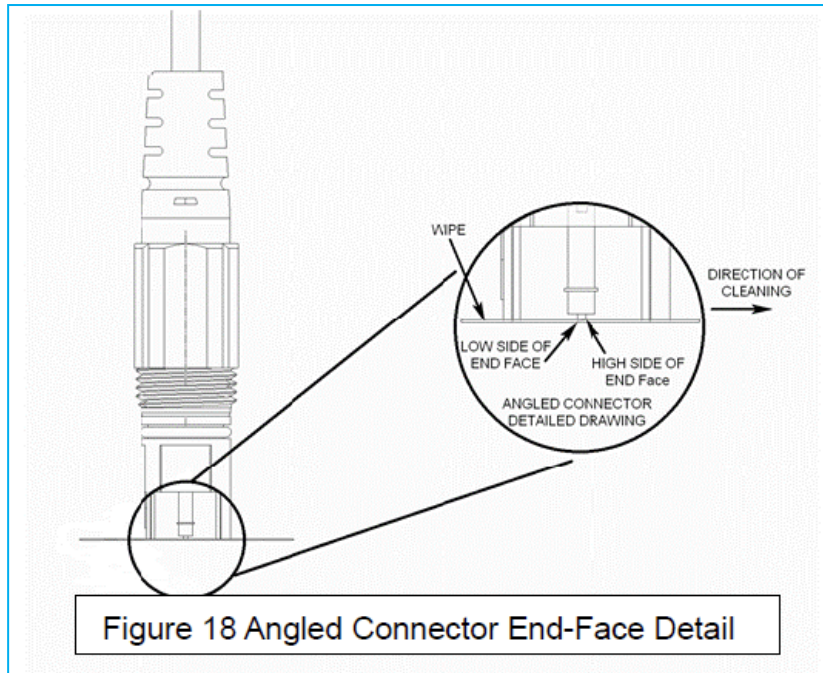
## MAINTENANCE OF MINI-OTE 300 TERMINALS

Maintenance for the Mini-OTE terminal is limited to cleaning the hardened adapters as needed to maintain optimal performance.

### DROP CABLE CONNECTOR CLEANING PROCEDURE

Cleaning kit (FHD-ACC-CLNKIT1) is required for this procedure. Use the following procedure to clean the drop cable connector:

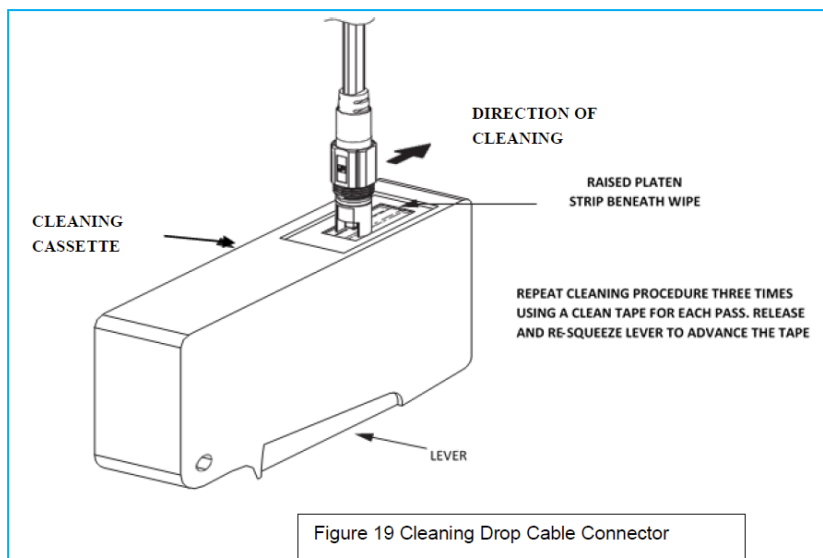
- 11.16 Unscrew the drop cable connector dust cap from the end of the drop cable connector.
- 11.17 Examine the end of the drop cable connector and determine which is the high side and which is the low side of the connector end-face as shown in Figure 18.



- 11.18 Locate the cleaning tape cassette that is provided with the cleaning kit.
- 11.19 Open the tape shutter by squeezing the lever on the underside of the cassette and then keep the shutter open by continuing to squeeze the lever.
- 11.20 Hold the end-face of the drop cable connector perpendicular to the cleaning tape and with the high side of the connector pointing in the direction of cleaning as shown in Figure 19.



**Note:** The drop cable connector uses angled SC type connectors. Make sure the high side of the connector end-face is pointing in the direction of the cleaning motion.



- 11.21 With light pressure, slide the connector end-face once across the tape in the direction shown using a smooth linear motion. Do not press too hard and do not repeat the cleaning motion with the same tape.
- 11.22 Release the lever on the underside of the cassette to close the tape shutter.
- 11.23 Repeat steps 11.18 through 11.21 until the connector has been cleaned three times.
- 11.24 When the connector is clean, reinstall the drop cable dust cap and tighten until finger tight.

**MINI-OTE ADAPTER/CONNECTOR CLEANING PROCEDURE**

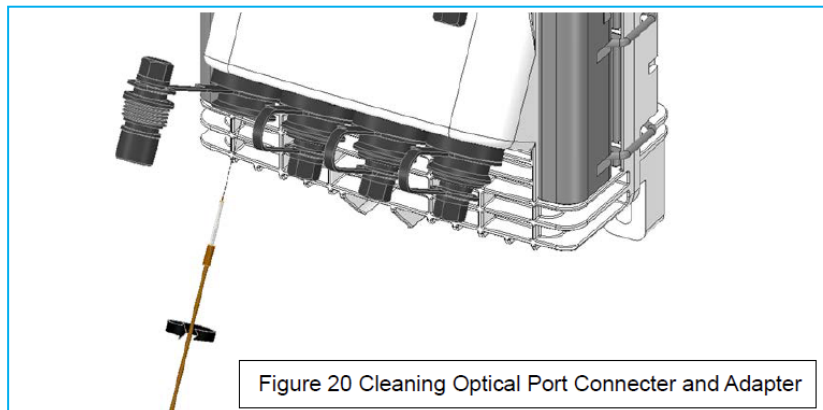
Cleaning kit (FHD-ACC-CLNKIT1) is required for this procedure. Use the following procedure to clean the Mini OTE optical port adapters and the internal connectors:

- 11.25 Using a 216C key tool, unscrew the optical port dust cap from the optical port adapter.
- 11.26 Locate the dry swabs that are provided with the connector/adapter cleaning kit.
- 11.27 Insert a dry swab into the adapter as shown in Figure 20.



**Note:** Do not apply alcohol to the swab or the adapter.

- 11.28 While applying light pressure against the connector end-face, rotate the dry swab 360° three times.
- 11.29 Dispose of the dry swab after use.
- 11.30 When the connector end-face and adapter ferrule are clean, reinstall the optical port dust cap and tighten using the 216C key tool.



**O-Ring Lubrication**

The O-rings used on the hardened connector and on the optical port dust cap are lubricated when shipped from the factory to prevent damage during installation.

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